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ABSTRACT

This document, one of more than 100 performance-based vocational teacher education modules, covers the following objectives as it prepares pre- and inservice teachers to present information with televised and video-based materials: (1) after completing the required reading, set up and operate videotape equipment; and (2) after completing the required reading, present information with a video-based presentation or televised program in a practice situation. After an introduction, the document contains an explanatory section on the organization of the module, required and optional learning activities, information sheets, student self-check evaluation forms that cover learning activities, model answers for the forms, and a form on which the teacher's performance on the module's terminal objective ("In an actual teaching situation, present information with televised and/or video-based materials") is to be assessed. The information sheets cover principles of operating video equipment, setting up equipment, videocassette loading, trial taping, recording a presentation, showing a videotape or videodisc, videotaping during instruction, and using educational television. (CML)

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Present Information with Televised and Video-based Materials

Second Edition

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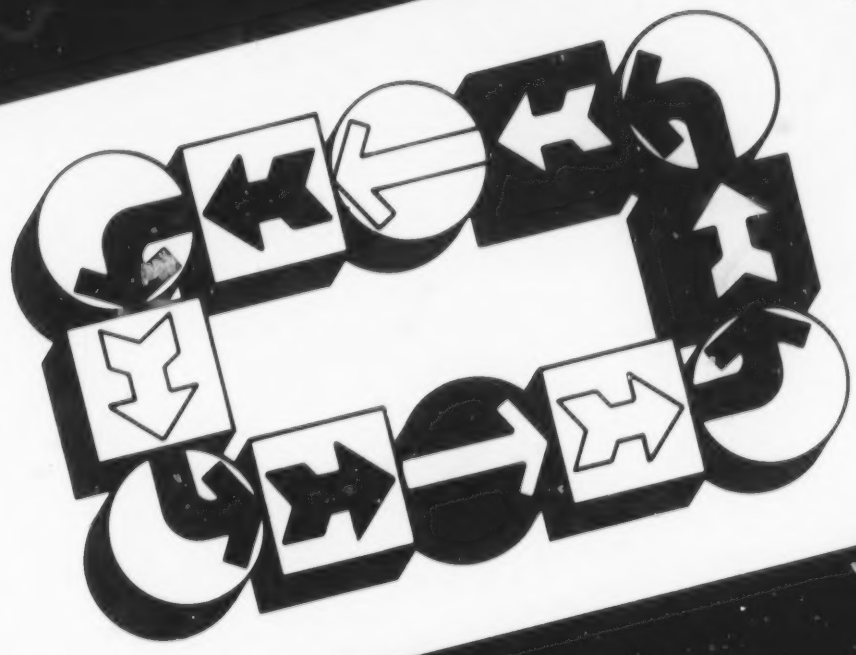

CE 058 830

AMERICAN ASSOCIATION FOR VOCATIONAL INSTRUCTIONAL MATERIALS
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FOREWORD

This module is one of a series of 127 performance-based teacher education (PBTE) learning packages focusing upon specific professional competencies of vocational teachers. The competencies upon which these modules are based were identified and verified through research as being important to successful vocational teaching at both the secondary and postsecondary levels of instruction. The modules are suitable for the preparation of teachers and other occupational trainers in all occupational areas.

Each module provides learning experiences that integrate theory and application; each culminates with criterion-referenced assessment of the teacher's (instructor's, trainer's) performance of the specified competency. The materials are designed for use by teachers-in-training working individually or in groups under the direction and with the assistance of teacher educators or others acting as resource persons. Resource persons should be skilled in the teacher competencies being developed and should be thoroughly oriented to PBTE concepts and procedures before using these materials.

The design of the materials provides considerable flexibility for planning and conducting performance-based training programs for preservice and inservice teachers, as well as business-industry-labor trainers, to meet a wide variety of individual needs and interests. The materials are intended for use by universities and colleges, state departments of education, postsecondary institutions, local education agencies, and others responsible for the professional development of vocational teachers and other occupational trainers.

The PBTE curriculum packages in Categories A–J are products of a sustained research and development effort by the Center on Education and Training for Employment (formerly the National Center for Research in Vocational Education). Many individuals, institutions, and agencies participated with the Center and have made contributions to the systematic development, testing, revision, and refinement of these very significant training materials. Calvin J. Cotrell directed the vocational teacher competency research study upon which these modules are based and also directed the curriculum development effort from 1971–1972. Curtis R. Finch provided leadership for the program from 1972–1974. Over 40 teacher educators provided input in development of initial versions of the modules; over 2,000 teachers and 300 resource persons in 20 universities, colleges, and postsecondary institutions used the materials and provided feedback to the Center for revisions and refinement.

Early versions of the materials were developed by the Center in cooperation with the vocational teacher education faculties at Oregon State University and at the University of Missouri—Columbia. Preliminary testing of the materials was conducted at Oregon State University, Temple University, and the University of Missouri—Columbia.

Following preliminary testing, major revision of all materials was performed by Center staff, with the assistance of numerous consultants and visiting scholars from throughout the country.

Advanced testing of the materials was carried out with assistance of the vocational teacher educators and students of Central Washington State College; Colorado State University; Ferris State College, Michigan; Florida State University; Holland College, P.E.I., Canada; Oklahoma State University; Rutgers University, New Jersey; State University College at Buffalo, New York; Temple University, Pennsylvania; University of Arizona; University of Michigan—Flint; University of Minnesota—Twin Cities; University of Nebraska—Lincoln; University of Northern Colorado; University of Pittsburgh, Pennsylvania; University of Tennessee; University of Vermont; and Utah State University.

The first published edition of the modules found widespread use nationwide and in many other countries of the world. User feedback from such extensive use, as well as the passage of time, called for the updating of the content, resources, and illustrations of the original materials. Furthermore, three new categories (K–M) had been added to the series, covering the areas of serving students with special/exceptional needs, improving students' basic and personal skills, and implementing competency-based education. This addition required the articulation of content among the original modules and those of the new categories.

Recognition is extended to the following individuals for their roles in the revision of the original materials: Lois G. Harrington, Catherine C. King-Fitch and Michael E. Wonacott, Program Associates, for revision of content and resources; Cheryl M. Lowry, Research Specialist, for illustration specifications; and Barbara Shea for artwork. Special recognition is extended to the staff at AAVIM for their invaluable contributions to the quality of the final printed products, particularly to Suzanne Gilbert for typesetting; to Jim A. Anderson for module layout, design, and final artwork; and to George W. Smith, Jr. for supervision of the module production process.

CENTER ON EDUCATION AND TRAINING FOR EMPLOYMENT
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The institute is a cooperative effort of universities, colleges, and divisions of vocational and technical education in the United States established to provide excellence in instructional materials.

Direction is given by a representative from each of the states. AAVIM also works closely with teacher organizations, government agencies and industry.

MODULE C-27

Present Information with Televised and Video-based Materials

Second Edition

Module C-27 of Category C—Instructional Execution
PROFESSIONAL TEACHER EDUCATION MODULE SERIES

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INTRODUCTION

The "video revolution," as it has come to be known, is far from over. This revolution has brought with it dynamic changes in the way we distribute and diffuse information. From the many possible channels on cable or satellite television from which to choose, to "time-shifting" video programs (using a VCR timer to record a program for later playback), Americans are "plugged in" to video.

As a vocational teacher, you can bring the impact of television and video into the classroom through the use of televised and video-based materials. You can use video's sense of immediacy, accessibility, and ability to involve the viewer with sight and sound as a means to facilitate learning. In addition, videotapes and videodiscs make it easy to store and retrieve information for use in future learning activities.

By capturing a video image on tape, you can add to your repertoire of teaching tools in a number of creative ways. You can record demonstrations, show close-up views of detailed operations, and extend the classroom experience by recording otherwise unavailable guest speakers or field trips. Television broadcasts, videodisc materials, and classroom recordings can help you increase both your instructional effectiveness and your efficiency.

Operation of video recording and playback equipment is a skill that should be relatively easy for you to learn and use. The effort expended in becoming proficient may be greatly repaid in improved classroom and laboratory management. If you are in an open-entry/open-exit and competency-based program, for example, you will find that videotaped lessons and demonstrations are invaluable in managing your instructional programs. You may also videotape your own performance to help you objectively evaluate your teaching skill and improve your own professional performance.

This module is designed to give you skill in using video-based presentations and televised programs in the classroom. It will help you learn how to operate the videotape and television equipment typically available in schools and colleges. It will also help you learn how to prepare videotape productions and how to incorporate them in both classroom and laboratory teaching.

ABOUT THIS MODULE

Objectives

Terminal Objective: In an actual teaching situation, present information with televised and/or video-based materials. Your performance will be assessed by your resource person, using the Teacher Performance Assessment Form, pp. 51–52 *(Learning Experience III)*.

Enabling Objectives:

1. After completing the required reading, set up and operate videotape equipment *(Learning Experience I)*.
2. After completing the required reading, present information with a video-based presentation or televised program in a practice situation *(Learning Experience II)*.

Prerequisites

To complete this module, you must have competency in developing a lesson plan and selecting student instructional materials. If you do not already have this competency, meet with your resource person to determine what method you will use to gain these skills. One option is to complete the information and practice activities in the following modules:

- *Develop a Lesson Plan*, Module B-4
- *Select Student Instructional Materials*, Module B-5

Resources

A list of the outside resources that supplement those contained within the module follows. Check with your resource person (1) to determine the availability and the location of these resources, (2) to locate additional references in your occupational specialty, and (3) to get assistance in setting up activities with peers or observations of skilled teachers, if necessary. Your resource person may also be contacted if you have any difficulty with directions or in assessing your progress at any time.

Learning Experience I

Required

Videotape equipment (monitor, camera, recorder) to set up and operate.

A blank videocassette to use in setting up and operating the videotape equipment.

Optional

An audiovisual expert with whom you can discuss the uses and operation of videotape and videodisc equipment.

An audiovisual equipment dealer whom you can visit or write to concerning video-based equipment and materials currently available.

Learning Experience II

Required

Video playback equipment (monitor, video recorder, videodisc player) to use during a lesson.

A television set or monitor to use in viewing a closed-circuit or educational TV program.

Videotape equipment (monitor, camera, recorder) to use in recording a presentation (required only if you elect to prepare your own videotaped presentation).

A prerecorded videotape or videodisc program with which to present information in a lesson.

A resource person to role-play a student to whom you are presenting a lesson and to evaluate your performance in using a video-based presentation or televised program to present information.

Optional

A resource person to review the adequacy of your lesson plan.

A teacher skilled in presenting information with televised or videotaped materials whom you can observe.

Learning Experience III

Required

An actual teaching situation in which you can present information with televised or video-based materials.

A resource person to assess your competency in presenting information with televised and video-based materials.

General Information

For information about the general organization of each performance-based teacher education (PBTE) module, general procedures for its use, and terminology that is common to all the modules, see About Using the PBTE Module Series on the inside back cover. For more in-depth information on how to use the modules in teacher/trainer education programs, you may wish to refer to three related documents:

The *Student Guide to Using Performance-Based Teacher Education Materials* is designed to help orient preservice and inservice teachers and occupational trainers to PBTE in general and to the PBTE materials.

The *Resource Person's Guide to Using Performance-Based Teacher Education Materials* can help prospective resource persons to guide and assist preservice and inservice teachers and occupational trainers in the development of professional teaching competencies through use of the PBTE modules. It also includes lists of all the module competencies.

The *Implementation Guide for Performance-Based Teacher Education & Competency-Based Staff Development Programs* is designed to help those who will administer the PBTE program. It contains answers to implementation questions, possible solutions to problems, and alternative courses of action.

Learning Experience I

OVERVIEW

After completing the required reading, set up and operate videotape equipment.

You will be reading the information sheet, Operating Video-Based Equipment, pp. 6–27.

You will be setting up and operating videotape equipment by completing the exercises specified in the Videotape Equipment Worksheet, pp. 29–32.

You will be evaluating your competency in setting up and operating videotape equipment, using the Videotape Equipment Operation Checklist, pp. 33–34.

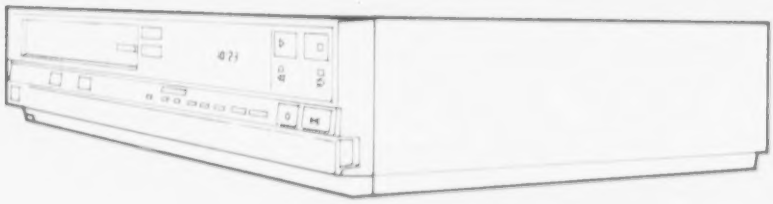
You may wish to locate and meet with a person with expertise in the area of audiovisuals for the purpose of discussing further the uses and operation of video-based equipment.

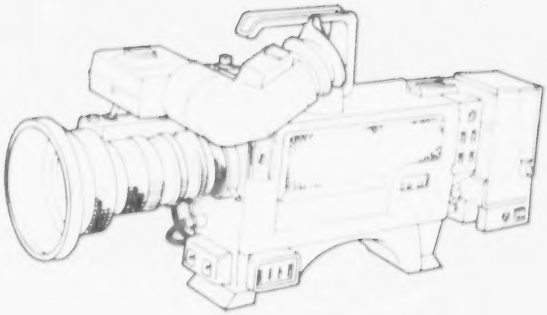
You may wish either to visit an audiovisual equipment dealer or to write to a dealer for catalogs describing current types of video-based equipment and supplies that are available.

SAMPLE 1

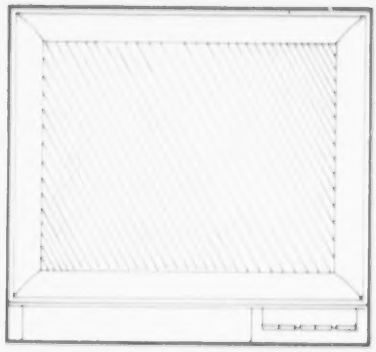
VIDEOTAPE EQUIPMENT

VIDEO RECORDER

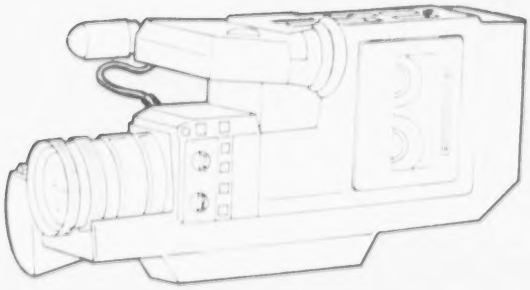




VIDEO CAMERA



VIDEO MONITOR OR
MONITOR/RECEIVER



CAMCORDER (camera/recorder combination)

For information explaining how to select, set up, and operate the equipment and materials necessary for a presentation that uses video-based media, read the following information sheet.

OPERATING VIDEO-BASED EQUIPMENT

By *video-based* equipment, we mean either videotape or videodisc equipment. The focus in this information sheet, however, will be primarily on videotape; at present, this is far more commonly available in schools than is the videodisc. With a few exceptions, current technology does not allow easy and affordable videodisc recording and re-recording in the same manner as videotape.

In general, video recording for videodisc occurs in exactly the same manner as will be described here, except that the recording medium is a disc rather than videotape. Where appropriate, special information about videodisc is included within the text that follows.

A complete videotape unit, as shown in sample 1, consists of a **video camera**, a **video recorder** (also called a VTR, an acronym for **v**ideo**t**ape **r**ecorder; or a VCR, an acronym for **v**ideo**c**assette **r**ecorder), and a **video monitor** or **monitor/receiver**. A unit can also consist of a **camcorder**, which is a combination **cam**era/re**corder**.

The video recording units generally used in the classroom operate very much like the VCRs or camcorders that are becoming so common today in American homes. However, whereas the home equipment is typically operated in conjunction with a television (TV) set, school equipment may be operated with either a TV set or a video monitor. What, you may ask, is the difference?

A video monitor may resemble your home TV set, but there are some important differences. A video monitor alone cannot receive television or cable broadcasts. If you need to receive these broadcasts, a monitor/receiver that contains a TV tuner (e.g., a TV set) must be used. If TV and cable broadcasts are not needed or if picture quality and ease of operation are of concern, than the video monitor is generally preferable.

With a TV set, a round antenna cable, called an **RF connector or cable** (for **r**adio **f**requency TV signal) is used to connect the video recorder and the TV set. Both sound and picture are sent to the TV set over the same cable; thus, the TV set may not provide as high-quality a picture as a video monitor. In addition, the TV set must be tuned to either Channel 3 or 4 in order to receive (and see) the signal from the video recorder.

A video monitor, on the other hand, can be connected directly to both the video recorder's sound *(audio)* and picture *(video)* outputs. This can produce very high-quality picture and sound. The connection is also relatively simple. There is no confusion about having to adjust the tuner to the proper channel in order to pick up the video recorder's output.

Note, too: All video recorders can use a video monitor; however, not all video recorders will be able to use a TV set.

Operation Principles

Video recorders operate on the same principles of magnetic recording as used by audiotape recorders and computer floppy disks. The **microphone** (or **mike** or MIC) converts the sound to an electronic signal. The pictures from the **lens** are converted by the video camera into another electronic signal. Both signals are then recorded as magnetic fields on a long length of thin plastic tape coated with a type of iron oxide.

Although many people refer to the process of videotaping as *filming*, there is no actual light-sensitive film involved. Thus, the videotape cannot be accidentally *exposed* to light and ruined as still-camera film could be.

However, videotape can fall prey to many other hazards. For example, you can accidentally erase a videotape by getting it too close to a strong magnetic field. Or the tape can be damaged by exposure to too much heat, cold, dampness, smoke, or dust.

Types of Equipment

Your school may have videotape equipment that uses ½" **VHS** (**V**ideo **H**ome **S**ystem) tapes. These are the same format as the videotapes available from video rental stores. VHS video equipment is not the only type available, however; your school or college may have ¾" **U-matic**, ½" **Beta**, or **8mm** video equipment.

Any of these systems, combined with a color or black-and-white video camera, can be used to videotape classroom activities or presentations. The tape can then be played back on the same type of equipment.

A problem can arise in the exchange of videotapes, however, since tapes of one format will not play on equipment using another format. Because VHS videotapes have achieved a market dominance in the United States, the terms *videotape* and *VCR* have become almost synonymous with the ½" VHS format. When ordering or borrowing tapes, therefore, it is best to verify beforehand that they are compatible with your video system.

Additionally, as the world becomes more and more a "global village" of information, tapes may be received from or sent to other countries. Be aware that with few exceptions, tapes from other countries (even ½" VHS tapes) will not play on American video recorders. Most other countries use TV systems that are different from the system used in North America. It is possible, however, to have videotapes from other *standards* converted to the TV system used in the U.S. and vice versa. Again, be aware of the need to verify and test a videotape before an important presentation.

Regardless of brand, country of origin, TV system standard, or tape size, **videocassettes** all contain a reel of videotape that is encased in a tough plastic housing to protect it from all those hazards that were referred to previously. Early in the development of video recorder technology, open plastic reels of videotape had to be threaded by hand through a complicated and torturous pattern onto the video recorder. Eventually, the videocassette was developed to simplify the use of video equipment.

The development of **camcorder technology** has simplified the recording process even further, removing much of the mystery and complexity and moving closer to just-point-and-shoot capability. Camcorder technology is making video recording available to more people by mirroring the development of the simple-to-use still camera (first pioneered by Kodak Film founder George Eastman many years ago).

The marketing of **motion-recording videodisc equipment** will further reduce camcorder size, weight, and complexity and further revolutionize current concepts of information recording and exchange.

Placement of Equipment

The most complicated element of classroom video use is the production of a videotape. The camera operator (usually called the *videographer*) may be someone other than you (e.g., a school or college media specialist). However, for ease of discussion, it will be assumed in this information sheet that you are serving in the videographer role.

Tape production requires five essential pieces of equipment: **camera**, **tripod**, separate **microphone** (and cable), **monitor**, and **video recorder**.

With the possible exception of the microphone, the videotape equipment needs to be placed at the back of the room in which the scene or program is to be taped. This placement allows you to shoot *long shots* and *close-ups* and *to pan* (i.e., to follow the action by swiveling the camera on the tripod from one side to another).

The camera should be placed far enough away from the primary subject that a *wide-angle shot* will show the participants and/or the necessary parts of the room. However, the camera should not be placed so far away from the primary subject that when the camera is *zoomed in* to a close view, it cannot show enough of a close-up shot to convey needed detail or expressions.

If at all possible, an **extension microphone** should be placed near your primary subject. Although a **camera-mounted microphone** may pick up sound from across the room (the primary subject), it will pick up any distracting sounds in the vicinity as well.

When locating equipment, it is important to ensure that you will not be videotaping with your subject against a bright background, such as series of windows. The camera's **automatic exposure controls** will sense the bright background and adjust the camera's exposure accordingly. This will make your subject come out very dark, perhaps only as a silhouette.

The **sensing element** of the video camera can also be damaged by pointing it directly at very bright lights or at the sun. Many cameras have been permanently damaged by well-intentioned camera operators who have pointed their camera directly at a strong spotlight or at the rising or setting sun "only for a little while" to capture some "special effect." Unfortunately, that special effect can live forever as a permanent dark spot burned-in on the camera's light-sensitive element.

Rather than fight a bright background or window light, use that light to enhance the available light directed at your subject. Place the camera with your back to the bright wall or against the windows. This may require shifting the classroom seating arrangement slightly. If this should prove impossible, try closing curtains or blinds on the windows or redirecting strong spotlights.

In addition, your camera may require that an **electronic or filter adjustment** be made, according to the light falling on your subject. A control labeled WHITE BALANCE or INDOOR-OUTDOOR may need to be adjusted. Look for a setting that may show a picture of a light bulb (for INDOOR-INCANDESCENT) or a sun symbol (for BLUISH DAYLIGHT).

No hard-and-fast rules exist with regard to adjusting these settings for occasions when light

sources may be mixed; for example, a mixture of daylight from windows (which is predominantly bluish) and incandescent room lights (which have a predominantly orange cast). Many new cameras have an AUTOMATIC WHITE BALANCE setting that senses the light source and adjusts the camera's color as appropriate.

The best advice is to set up the equipment you plan to use, in the actual videotaping location, under the best approximation possible of the expected conditions—before your actual videotaping. Then try various microphone placements and camera settings, doing a test recording of each and checking the results. In this way, you can make adjustments, if necessary, so as to obtain the best possible picture and sound. Be sure to write down the final settings, so that the actual videotaping will benefit from your test results.

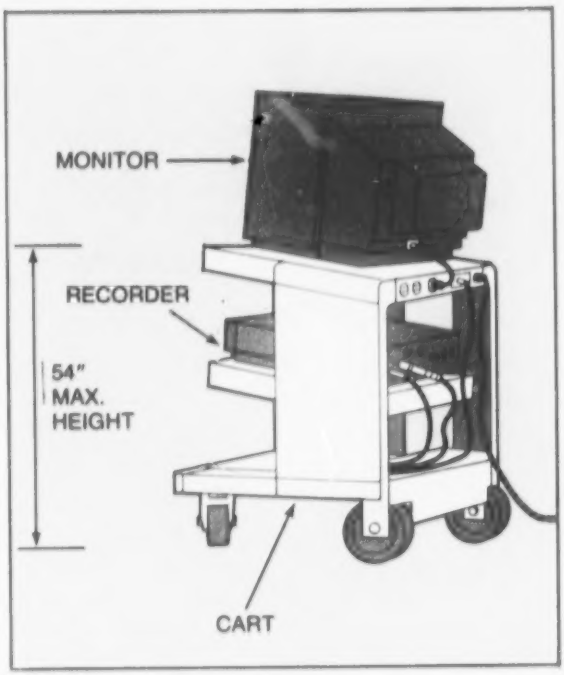
If it is not possible to conduct such tests well in advance, try to set up the equipment just prior to the scheduled videotaping, with enough time allowed for a school or college media specialist to be called in to help should any problems arise. It is important to do this before you have students, teachers, or actors waiting for the videotaping to commence.

In setting up the equipment, it is important to place the **video tripod** out of the direct path of travel. If the tripod leg is projecting into the aisle, for example, someone might trip over it. If that occurs, the person may be injured. The camera can be damaged if it is tipped over in the process. The videotaping can be ruined if the tripod is bumped during a *take*, while the camera is recording.

The ever-present **AC extension cord** you use to power the video equipment or portable lights can also be dangerous. Never route an extension cord across a doorway or aisle where someone could trip over it. Carefully place electric cords and microphone cables so they are out of the path of traffic (e.g., at the perimeter of rooms or over the top of doorways).

If necessary, *dress* cords and cables, using a wide, heavy-duty pressure-sensitive tape (e.g., duct tape) to tape them to the floor. However, exercise caution when using tape; first test the tape you want to use to ensure that it will not damage the floor or carpet.

As illustrated in sample 2, you may want to locate the recorder and monitor close to the camera. (Note that with a camcorder, this happens automatically. The recorder, and often a monitor, are part of the camera.) This allows you to use the monitor to pan and focus the camera without having to peer through the camera's tiny **viewfinder** for the entire videotaping session. It also allows you to change



videocassettes or adjust sound levels as needed during videotaping without having to travel far from the camera.

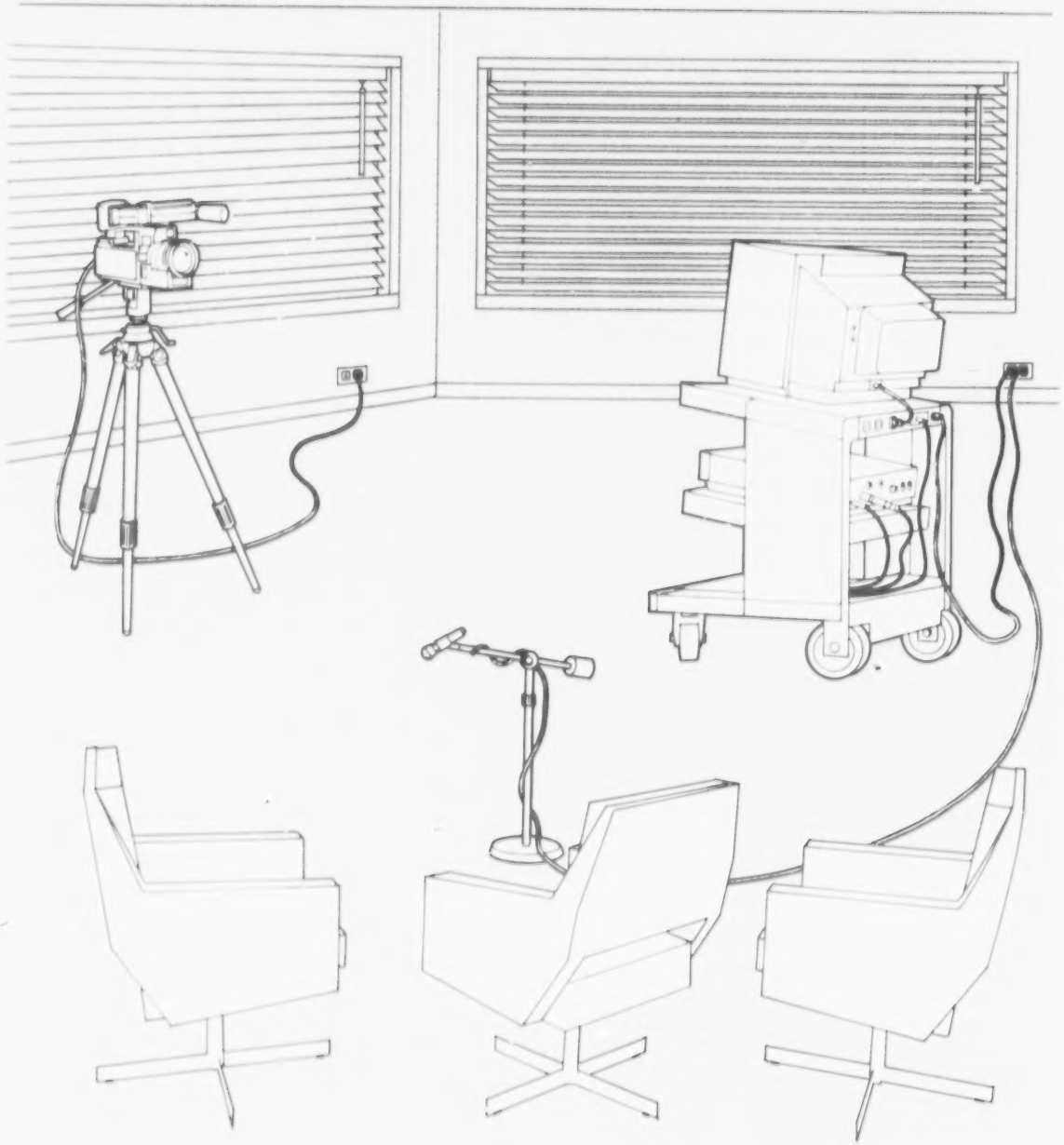
At this stage (videotaping), the video monitor should be turned so that your subjects cannot see themselves on the monitor. The monitor is there to help you, the camera operator. If your subjects can see the monitor, this tends to distract them from their presentation responsibilities.

If you are using a separate recorder and monitor (rather than a camcorder), they may be mounted on an audiovisual cart. The monitor can be set on the top shelf of the cart, which is usually no higher than 54". The video recorder can be set on the middle shelf, which is usually about 28" high. The bottom shelf can then be used for miscellaneous items, such as extension cords, spare videocassettes, microphone cables, and duct tape.

Care should be taken to ensure that the placement of the monitor does not disturb the cart's center of gravity, producing the possibility of a *tip-over hazard*. Many excellent carts have been designed by AV suppliers for specific sizes of video monitors. Make sure your cart is appropriate for the size of the equipment you are using. Straps and/or metal brackets can be used as well, in order to help ensure that tip-over hazards are avoided.

SAMPLE 2

EQUIPMENT PLACEMENT



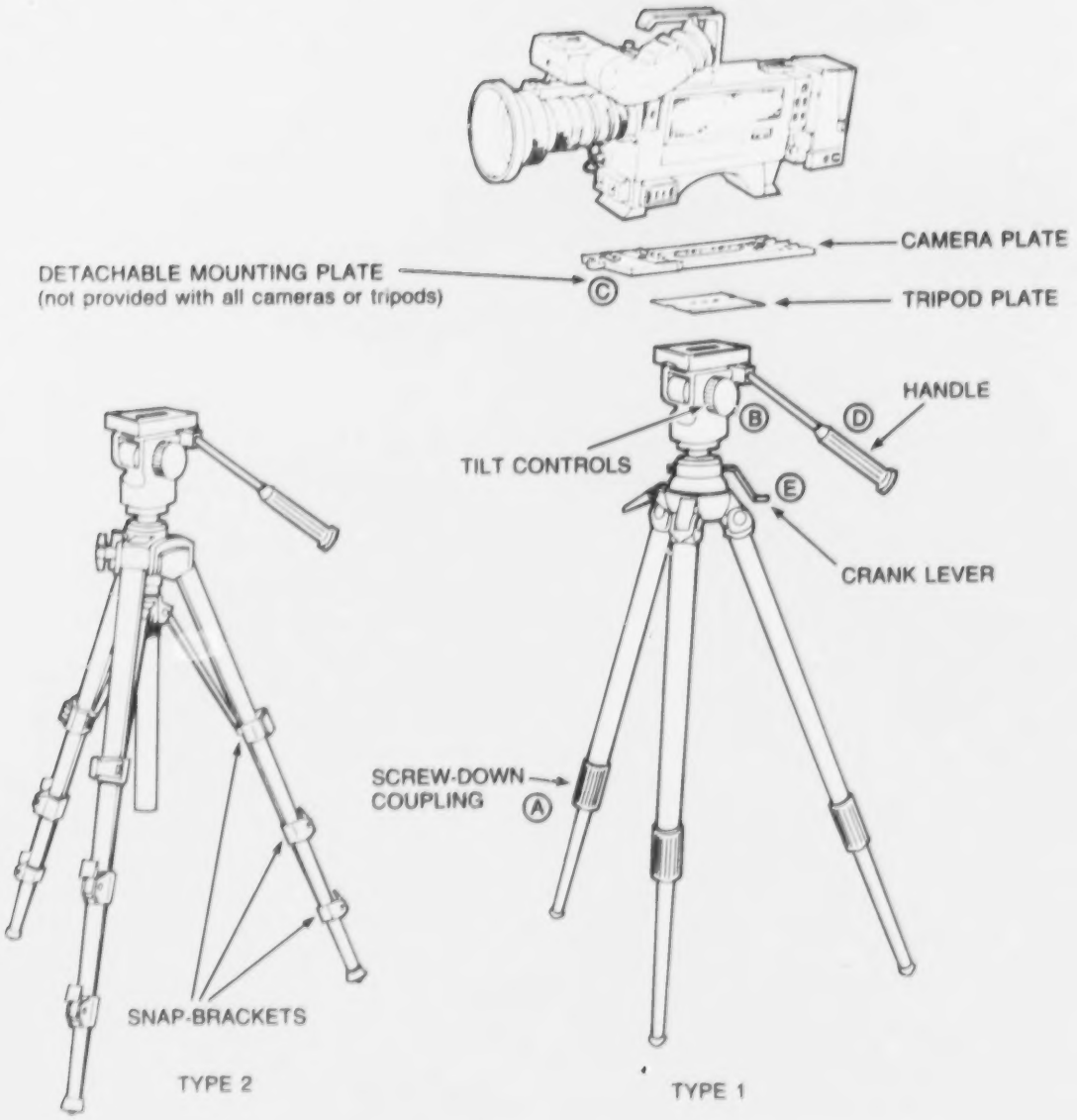
Equipment Setup

Tripod. One of the first tasks is to set up the tripod. Most tripods have **telescoping legs**. Loosening the **screw-down coupling** or **snap-bracket** (one per leg section) will allow the leg to extend. Tightening the screw-down coupling or resetting the snap-bracket secures the leg in its extended position. Care must be taken to extend each leg approximately the same distance so that the tripod will be level.

Inexpensive tripods intended for use with still cameras may not work very well with video cameras. Tripods are designed with a particular camera load-weight in mind. Thus, a video camera used on a

SAMPLE 3

TRIPOD TYPES



tripod made for a still camera may be severely unbalanced. The video camera may keep pitching forward, despite attempts to lock the tripod controls.

Also, video tripods are designed with a **pan head**. The pan head allows you to make smooth pans and zooms on the tripod without needing to have the **tripod head** tightly locked down to prevent the camera from suddenly pitching forward or back when you least expect it. Small-capacity tripods may lack this feature.

The two types of tripods and their parts are illustrated in sample 3.

To set up the tripod, loosen the screw-down coupling (type 1, part A) on one section of each leg, extend that section, and tighten the coupling securely. If your tripod has snap-brackets (type 2, part A) to secure the legs, loosen a bracket, extend the leg, and resnap the bracket. Extend the same section on each of the three legs so that the tripod will be level.

Spread all three legs completely, and tighten the **tripod head tilt knob**. (This control is shown in sample 3 as part B, but it may instead be part of the **handle** [part D]). This keeps the camera from pitching forward or back after you place it on the tripod. To check that the tripod legs are properly locked, apply your weight (moderately) to the center of the tripod head.

To prepare the tripod for the camera, place the tripod head level (parallel to the floor) using the **tilt controls** (part B). Also tighten the **pan controls** so that the tripod head will not swivel side to side.

Carefully identify the **threaded hole** in the bottom of the camera. Your camera may have more than one hole, or more than one size of hole. Multiple holes of the same size can be used for adjusting the camera's tilt balance. Multiple holes of different sizes are used with different tripods (e.g., home/school tripods and professional tripods).

The tripod may have a **detachable mounting plate** (part C) that will be secured onto the bottom of the camera with a screw with a knobbed head. The plate (with camera attached) is then latched onto the tripod with a **locking mechanism**. If the tripod does not have a detachable plate, it will have a **threaded screw** attached to the camera base.

In either case, the screw to secure the camera to the plate or tripod head will generally slide from front to back in a channel. This allows the camera to be properly balanced, front to back, on the tripod. Carefully align the screw with the proper hole in the camera base, and turn clockwise to thread the screw while supporting the camera with one hand.

Find the best balance position for the camera, and then tighten the screw thread. If you find you have difficulty threading the screw into the camera base, *do not force the screw*. Back the screw out and try again. It should thread easily and smoothly.

Before removing your support from the camera, test to see whether it is actually secured to the tripod by lightly lifting the camera. If it moves, or seems loose, repeat the steps used to mount the camera.

Your tripod may have a **crank lever** (part E) for adjusting the **threaded elevator section**, which raises and lowers the camera. Generally, do not use the camera with the tripod's **center elevator section** extended all the way up. The camera will wobble back and forth excessively in this position. A better method is to extend additional sections of the tripod legs (if so equipped). If this is not possible, consider placing the tripod on a stable and secure platform.

Equipment connections to power sources. Connect the cable from the **power supply** to the camera, and then plug the AC power cord into your power strip or extension cord. Operation of the camera on batteries is not recommended for this exercise. The battery may not be fully charged, and if it is necessary to change batteries during the production, some program material may be lost while the change is taking place.

Your camera may be powered from your video recorder via a **multi-pin cable**; if this is the case, attach the multi-pin cable from the recorder to the camera. Your camera may also have a **built-in power supply**; in this case, plug the AC line cord into the power strip or extension cord.

Connect the video recorder and the monitor to an extension cord or power strip that is plugged into an electrical outlet (120 volts).

Turn on the power to the camera, video recorder, and monitor.

Microphone. If you are using a remote microphone, place it as close as possible to the primary source of sound (e.g., the presenter). Placement may vary depending upon the type of microphone used or the number of presenters that must be able to be heard *on mike*.

Some microphones are **lavaliere** or **lapel** type, designed to be worn around the neck or clipped onto a shirt or blouse. The advantage is that the microphone stays close to the sound source. The potential disadvantage is that you may pick up rustling from the movement of clothing or other distracting sounds caused by the speaker's mannerisms.

A **unidirectional** microphone (which includes very-directional *shotgun* microphones) picks up sound better from one direction than another. A disadvantage of this type of microphone is that when you are dealing with multiple sound sources, it must be pointed or aimed at each separate source.

An **omnidirectional** microphone will pick up sound from all directions, making exact placement less critical—but perhaps at the cost of a clear, easy-to-understand soundtrack. Hand-held or podium-type microphones are generally omnidirectional. When using this type, try to keep the microphone in range of your subject to avoid picking up unwanted sounds.

Microphone-to-recorder hookup. After placing your microphone, run the extension cable to the recorder, securing it to the floor if necessary.

At the recorder, find the **microphone jack**, and plug the microphone in. This may be more difficult than it sounds. Very few home video recorders have a microphone jack (labeled MIC IN), and not all models of video recorders for schools have them either.

Camcorders and other recording units designed for portable use with cameras will have a MIC IN jack. Generally, this is a **miniature phone jack** for a **miniature phone plug** (called a **Sony-style audio connector**). However, your microphone may instead have a **professional 3-pin XLR connector** or a ¼" **phone plug**.

In any event, you will likely need to acquire an **audio adaptor** in order to mate your microphone to your recorder. These should be available from your school or college media specialist. If not, a local electronic equipment and supply store (e.g., Radio Shack) should be able to provide you with the appropriate adaptor.

If your recorder does not have a microphone input, you will need to use a **microphone mixer** with a "line" level output to feed to your recorder's AUDIO IN jack. And yes, the plug out of your mixer may not match the **RCA-style pin jack** on your video recorder; again you will need to get an audio adaptor.

Sample 4 shows examples of plugs and jacks, as well as the typical locations of microphone inputs. On camcorders, look near the camera-mounted microphone. On cameras that connect to a video recorder with multi-pin cables, look on the camera body. On some recorders, look on the lower section of the face of the recorder. On professional portable video recorders, look on the side of the recorder.

Camera-to-recorder hookup. There then needs to be a connection between the camera and the recorder (see sample 5). Unlike the case with microphone connections, all video recorders will have a VIDEO IN plug. However, the plug style may differ from camera to recorder.

Connectors with a round, threaded coupling about ¾" in diameter are called **UHF-style connectors**. Connectors with a pin twist-lock connection are called **BNC-style** (for **b**ayonette **n**onnector). Straight slide-in pin plugs are called **RCA-style**. RCA-style jacks will accept either an RCA-style **audio** cord or an RCA-style **video** cord, so reading the label on the jack can be very important. Otherwise, it would be easy to plug the camera into the wrong jack.

Newer video equipment will have an **S video connector**, which is a miniature DIN-type connector. The connector is round, with five pins. You align the pins with the corresponding holes in the jack, and then push in the connector to mate it with the jack. Although an S connector is used by many manufacturers, no one S connector is standard to all equipment.

One caution! In connecting the camera to the recorder, don't try to plug the camera's video line into a small threaded jack about ⅜" in diameter. This is the RF connector that was discussed earlier; it will accept TV antenna or cable signals only.

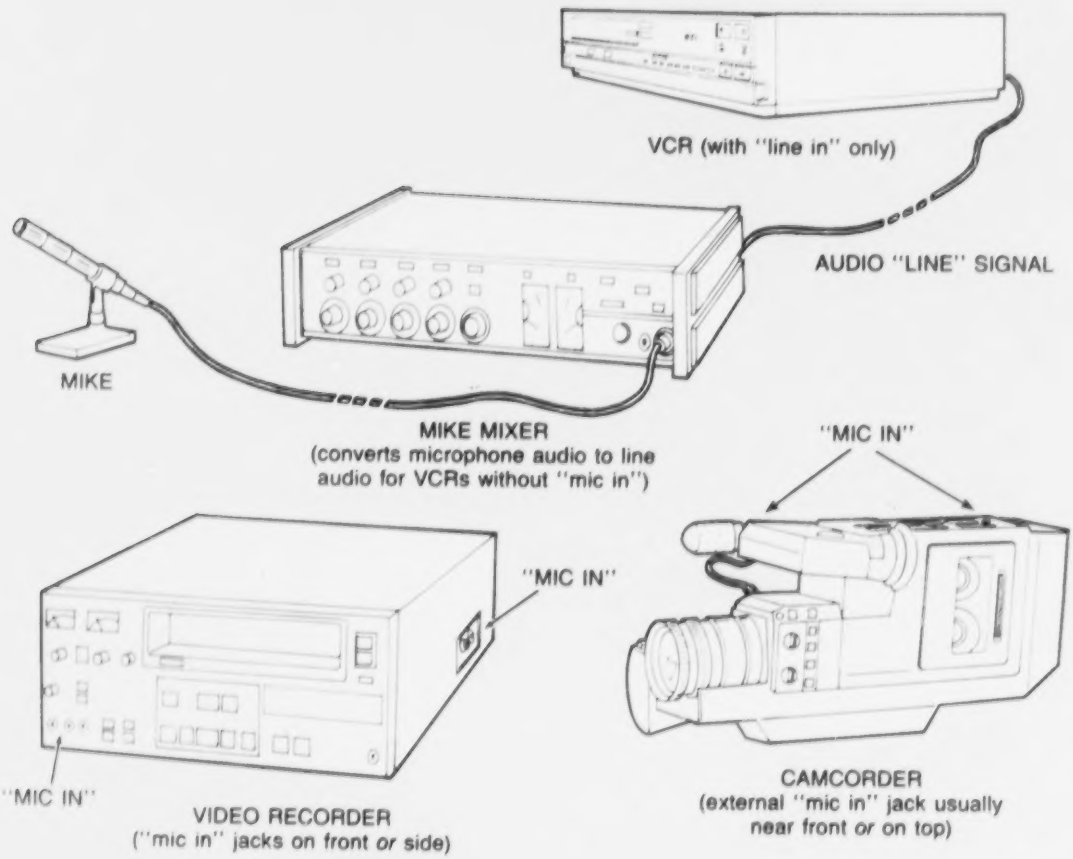
Look for the camera's VIDEO OUT connectors on the back of the camera, on the side near the back of the camera, on the camera power supply unit, or on the bottom of the camera. Look for the video recorder's VIDEO IN or CAMERA IN connectors on the back or side of the recorder. Connect the camera to the recorder with a **round coaxial cable**, with appropriate connectors at both ends.

Again, if the plug is not compatible with the jack, you will need an adaptor. Video adaptors should be readily available from your school or college media specialist or an electronic equipment and supply store.

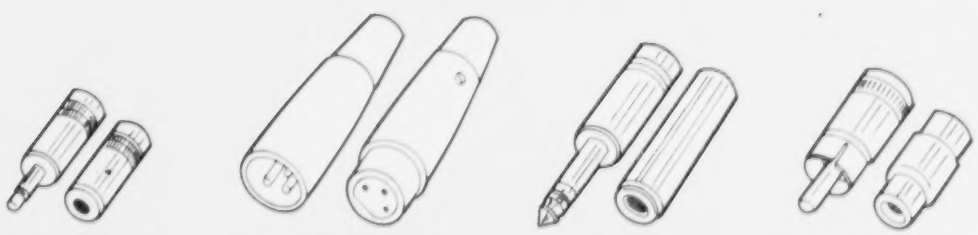
SAMPLE 4

MICROPHONE-TO-RECORDER HOOKUP

LOCATION OF MICROPHONE INPUT JACKS


VCR (with "line in" only)
AUDIO "LINE" SIGNAL
MIKE
MIKE MIXER
(converts microphone audio to line audio for VCRs without "mic in")
"MIC IN"
"MIC IN"
"MIC IN"
VIDEO RECORDER
("mic in" jacks on front *or* side)
CAMCORDER
(external "mic in" jack usually near front *or* on top)

AUDIO CONNECTOR STYLES



MINI ⅛" PHONE PLUG AND JACK (Sony-style)

PROFESSIONAL 3-PIN XLR PLUG AND JACK

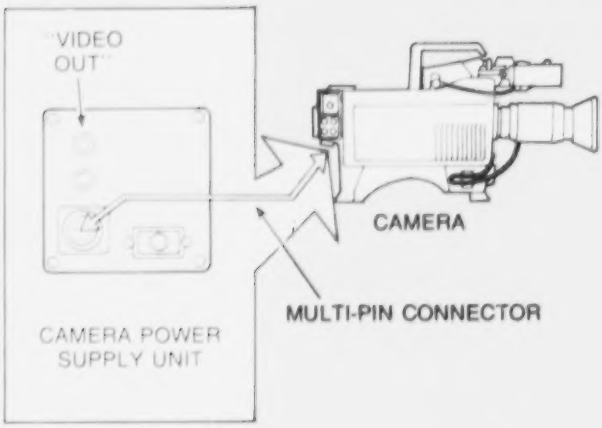
¼" PHONE PLUG AND JACK

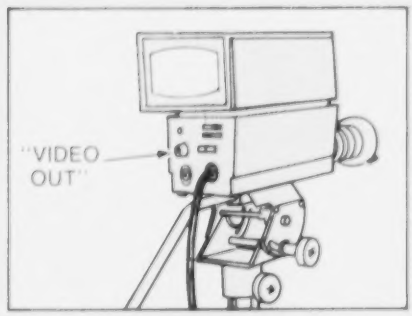
RCA-STYLE PLUG AND JACK

SAMPLE 5

CAMERA-TO-RECORDER HOOKUP

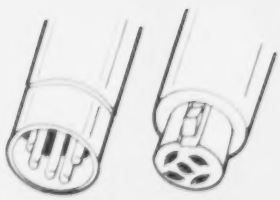
LOCATION OF VIDEO OUT JACKS



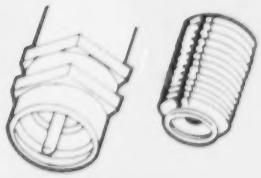


CAMERA
("video out" on bottom or near the back)

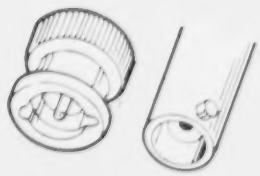
VIDEO CONNECTOR STYLES



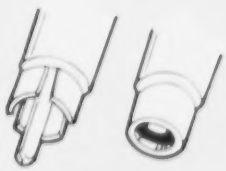
S VIDEO CONNECTOR
(5-pin push-in)



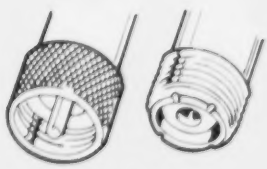
RF CONNECTOR
(antenna signal; *not* a video connector



BNC-STYLE
(pin twist-lock)



RCA-STYLE
(push-in pin)



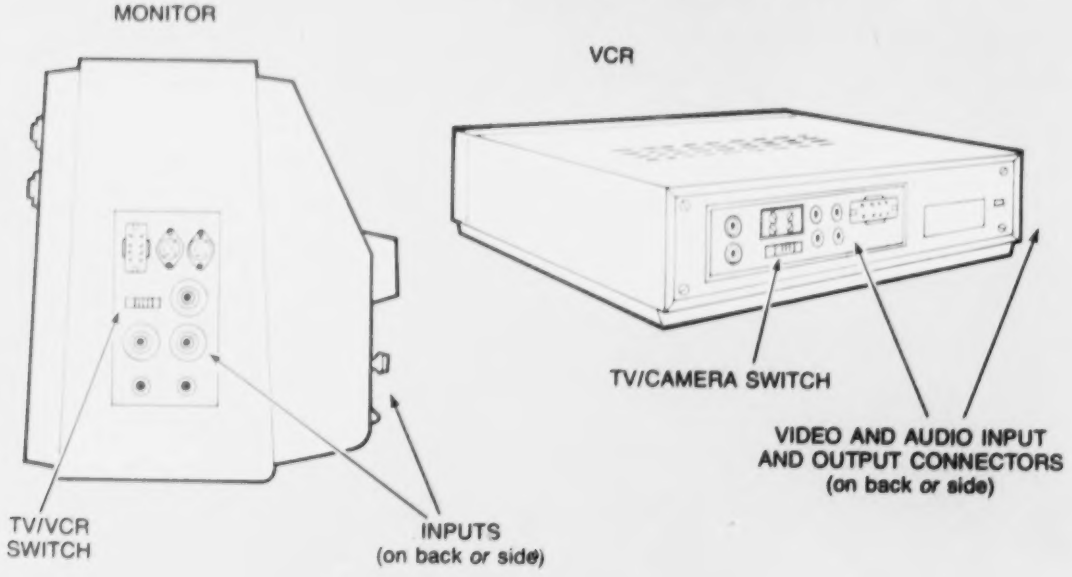
UHF-STYLE
(threaded)

Monitor-to-recorder hookup. Only one other basic connection is required: connecting the monitor to the output of the video recorder (see sample 6). But first, before you connect the monitor, *turn down the audio control for the monitor speaker!* Failure to do so could produce immediate and undesired results: unpleasant and just plain **loud** screeching and howling audio feedback.

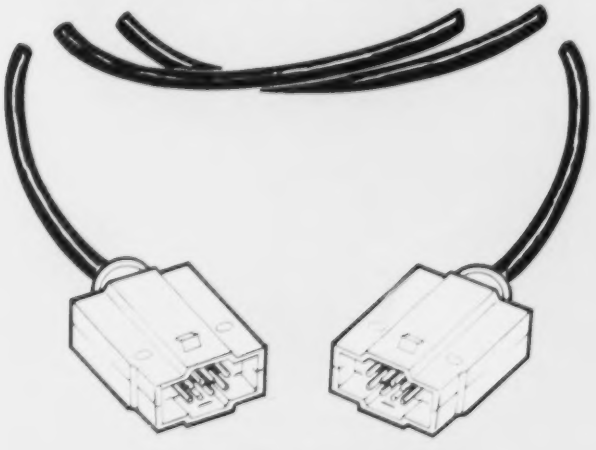
SAMPLE 6

MONITOR-TO-RECORDER HOOKUP

LOCATION OF VCR OUTPUT CONNECTORS



MONITOR INPUT CONNECTOR



EIGHT-PIN CONNECTOR
(video and audio connector)

Alternatively, you can hook up a pair of headphones to the monitor jack. Before hooking up the monitor, you can use the headphones to set an audio level, or you can carefully set the speaker volume at such a level, so that feedback does not occur.

The same rules that apply to hooking up camera or video cable connectors apply to hooking up monitors, with some additions.

- If designed for school use, the video recorder (and monitor as well) will have a **rectangular eight-pin connector**. Connecting the eight-pin cable to your video recorder and monitor will give you both sound and picture through one cable.

  The eight-pin cable has the distinction of being able to work correctly no matter which end of the cable is plugged into which device. The challenge is that the pins must be carefully matched in orientation with the eight-pin plug so that no pins are broken or bent.
- Your video recorder may also use the RF connector output to *broadcast* to television Channel 3 or Channel 4 if you have a monitor/receiver or are using a TV set instead of a monitor.
- If you use separate VIDEO OUT and AUDIO OUT connectors, you will need separate cables to run the sound and picture to your monitor.

Look for output connectors in the following locations: on the back of your video recorder, under a movable panel on the front of some video recorders, and on the AC power supply of camcorders. Look on the back of your monitor or monitor/receiver for the VIDEO IN or eight-pin connector. Look on the back of your TV set for RF IN or VHF ANTENNA IN.

Needed control switch changes. Check with the media specialist in your school or college to see if there are any control switches that must be changed with the camera-recorder-monitor hook-up. For example, many video recorders will automatically switch to VIDEO IN from their built-in tuner when a plug is connected. Audiovisual-grade or professional video recorders may require you to move a switch to activate the VIDEO IN connector.

Monitors will need to be switched to TV IN if an eight-pin connector is used. They will need to be switched to VIDEO IN if separate audio-video cables are used. If using a TV set, you will need to make sure that it is tuned to the **output channel** (check the video recorder output channel setting) and that it is tuned to either Channel 3 or Channel 4 (whichever channel is not used by a TV station in your area) so that there is no interference.

The following is a summary of the steps that should be followed in preparing to produce a videotape:

1. Set up the equipment out of the way of room traffic, and place the camera facing away from windows.
2. Set up the tripod.
3. Place AC extension cords, microphone cables, and video cords out of the path of room traffic, so that no safety hazard is present.
4. Connect equipment to the extension cord or outlet power strip.
5. Place the microphone in close proximity to the primary speaker or activity, and connect it to the video recorder's microphone input.
6. Connect the camera to the video recorder with the appropriate cable.
7. Connect the video recorder to the monitor with the appropriate cable.
8. Set switches for recording (if necessary) on the video recorder and on the monitor.

Videocassette Loading

At this point, you are ready to place your blank videocassette into the recorder.

First, consider **tape length**. Videocassettes come in different lengths (e.g., T-60, T-120, T-160). The maximum playing times vary accordingly (e.g., T-60 = 3 hours; T-120 = 6 hours; T-160 = 8 hours). In selecting which length to use, bear in mind that the tape thickness varies with the length. The size of the plastic cassette is always the same; therefore, the longer the tape, the thinner it must be to fit the space allotted.

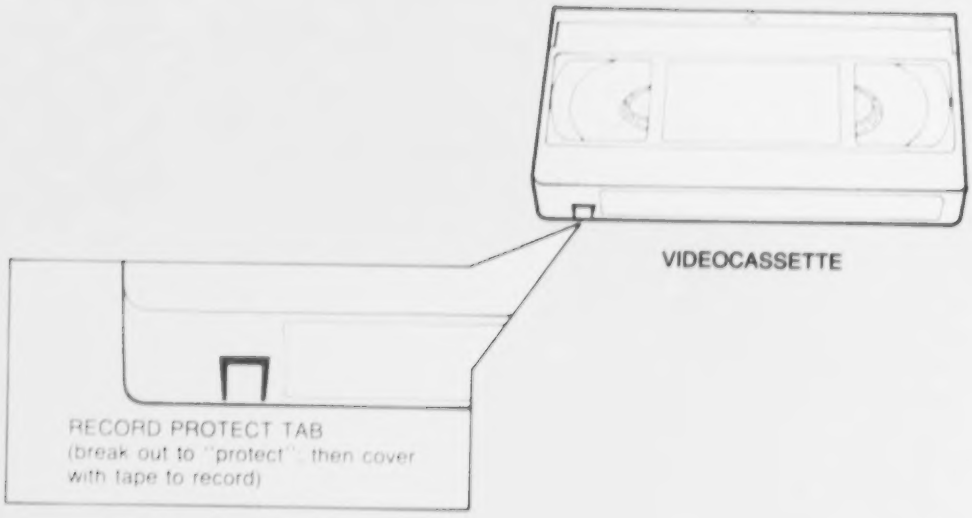
Tape thickness ranges from 10–20 microns, a micron being equal to one millionth of a meter. The longer and thinner the tape, the more fragile it is. Stopping, starting, and pausing a tape put a strain on it. Thus, for example, if the tape will be subjected to frequent individual student use, the less fragile, the better.

To load the videocassette you have selected, first carefully orient it (see sample 7). Hold it with the long, smooth spine facing toward you and with the clear plastic windows, which show the tape reels, facing up. (The spine often carries a paper label indicating the tape's content.) The long side with the notched-door mechanism should face away from you. The tape may have a label with an arrow indicating the direction in which it should be placed into the machine.

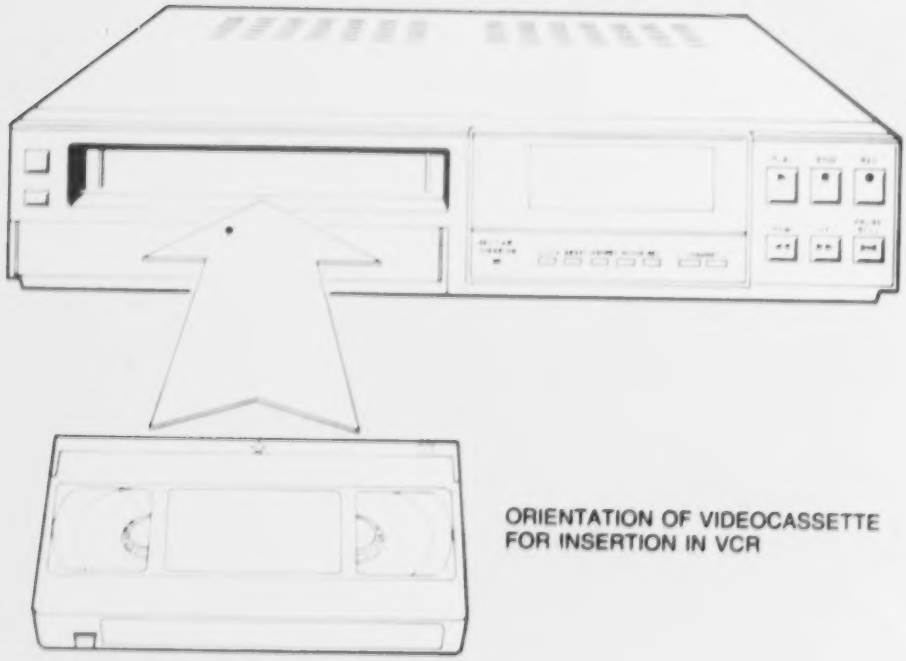
Holding the tape in this manner, check the lower left-hand corner of the smooth, long back edge. There should be a plastic tab, cut on three sides, that covers a notch on the cassette (see sample 7). This is the **record protect tab**.

SAMPLE 7

VIDEOCASSETTE



VIDEOCASSETTE



ORIENTATION OF VIDEOCASSETTE
FOR INSERTION IN VCR

20

If the record protect tab has been broken out, you can play back whatever is on the tape, but you cannot record anything new. The tape has been protected from accidental erasure in the machine by the removal of this tab. (The record protect tab will not, however, protect the tape from damage from a magnetic tape eraser or strong magnetic fields.)

You can remove this protection from the cassette. Simply cover the notch in the cassette with a piece of masking tape or clear, sticky tape. With the notch covered, you will be able, once again, to record on the cassette. Note that if you ever encounter a situation in which the video recorder will not go into RECORD, be sure to check the tape to see whether the tab has been broken out.

Not all videocassettes have a record protect tab like the one previously described. The ¾" U-matic videocassettes use a small, red dot labeled with an *R* as a replaceable record protect tab. The 8mm videocassettes use a small, red sliding tab on the cassette as a record protect device.

Once you have the videocassette properly oriented and have ensured that the record protect tab will allow you to record, you are ready to insert the videocassette. All you need to do is place the tape into the **loading slot** on the front of the video recorder and gently push. The machine will pull the cassette inside the machine and automatically thread it.

On some models, however, it will be necessary for you first to place the tape into housing, and then to push the housing and tape down into the machine. The door will latch closed, and the machine will thread.

Never force a videocassette into a machine. If the tape does not go into the machine smoothly, it may be upside down, backwards, or damaged in some manner. Check to make sure you have the tape oriented properly.

Next, if your recorder provides different tape speed options, you may need to select which speed to use. Long play (LP) and extended play (EP) provide more recording time per tape (i.e., you can fit more on the tape). For example, standard play (SP) provides only 2 hours, 40 minutes of recording time on a T-160 tape, whereas LP provides 5 hours, 20 minutes, and EP provides 8 hours.

In general, however, SP is the best speed option. If you put 8 hours of programming on a tape, individual programs are more difficult or time-consuming to locate. SP is also the most 'universal' speed option. For example, if you want your tape professionally edited, you will probably discover that professional-quality editing machines only accept tapes recorded at SP speed. Likewise, if you want to show your tape at a professional conference or workshop, you may discover that the audiovisual- and professional-grade recorders available there only play SP speed.

In short, you need to plan ahead. And, if you use anything other than SP speed, you need to be aware that it may limit your ability to edit the tape or show it on different machines. Don't assume that all machines record all speeds—they don't!

Trial Taping

Before the actual videotaping, it is advisable to do a test recording with the equipment you will be using. This trial recording will help you (1) verify that you have successfully hooked up the equipment and (2) identify any possible problems with the location or environment. For example, is the lighting adequate, and is the sound quality acceptable?

There should be full room lighting. Blinds or curtains should be used to control harsh direct sunlight, which might otherwise cause deep shadows or very bright spots of light.

Older video cameras may need additional lighting to produce a good picture. Picture quality may not be acceptable in dim or difficult lighting situations, such as stage lighting where there are both very bright and very dark areas.

Newer technology has produced video cameras which have improved sensitivity and which, therefore, need less overall light. Features such as **low light** or **seven-lux capability** generally mean that the camera will produce a good picture even under slightly low room light.

Before you start taping, you may wish to reset the **numeric tape index counter** on the machine to *000*. This will allow you to keep track of where the presentation began or where certain scenes are located.

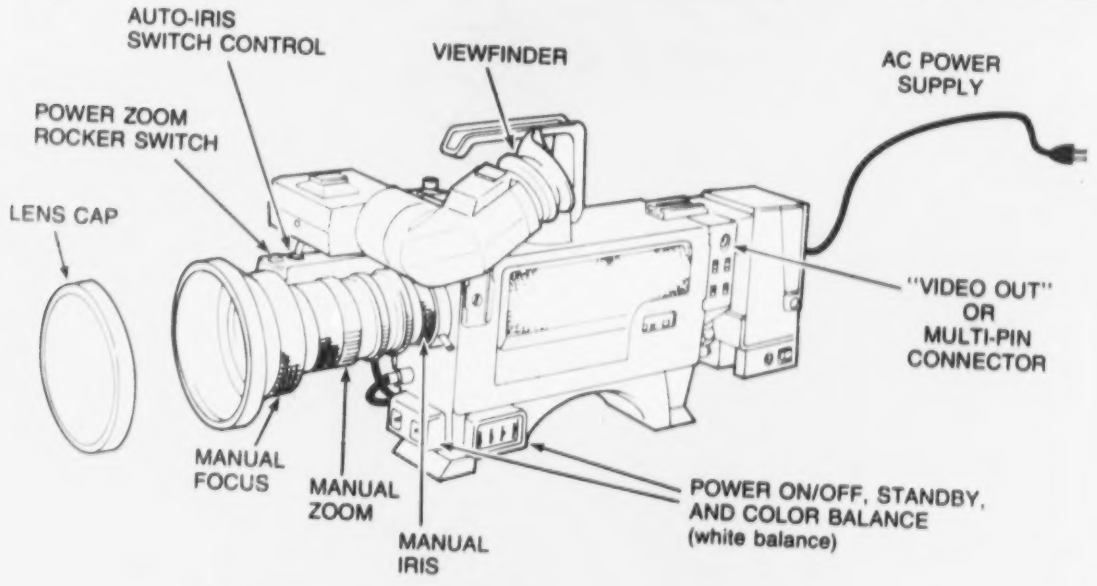
Note that on some machines, these numbers do not indicate elapsed time or even tape footage. They apply only to this particular tape in this particular machine. Playing the tape on a different machine will likely produce different numbers. Tape counters on professional video recorders are an exception to this rule; these machines use a real-time counter to show elapsed recording time.

The next step is to make sure that all your equipment—your camera and recorder (see sample 8) or your camcorder (see sample 9)—is hooked up and working. The following procedure will help you do just that.

First, put the camera on OPERATE from OFF or STANDBY (or into RECORD mode if a camcorder) to get a picture in the viewfinder. Also, check to see that the camera's **lens cap** has been removed and that any exposure controls are set on AUTOMATIC.

SAMPLE 8

CAMERA & LENS CONTROLS



NOTE: The "pause" or "record" button is on the lens handhold when using a multi-pin camera cable.

Next, adjust the camera's WHITE BALANCE or COLOR settings to get the most realistic picture on the monitor of the scene you are shooting.

Third, place the **autofocus switch** on ON if the camera has one. If not, operate the **lens controls** to zoom the lens to a TELEPHOTO setting to produce a close-up of your subject. Carefully adjust the focus of the lens to produce the sharpest picture, and then move the lens control to a wide-angle setting to get a wide shot of the scene.

Next, place the video recorder controls into RECORD mode. This usually requires that you press the PLAY and RECORD buttons (or triggers) at the same time. Then temporarily stop the movement of the tape by placing the recorder into PAUSE mode.

The procedure for taking the recorder out of PAUSE mode and into RECORD varies from machine to machine. On some machines, you depress the RECORD trigger; on some, you depress the PAUSE button; and on others, you depress the RECORD button.

Now, verify that the tape reels in the cassette are actually turning. This can be done by viewing the tape through the **viewing window** if you have one. Camcorders generally do; front-loading VHS decks do not.

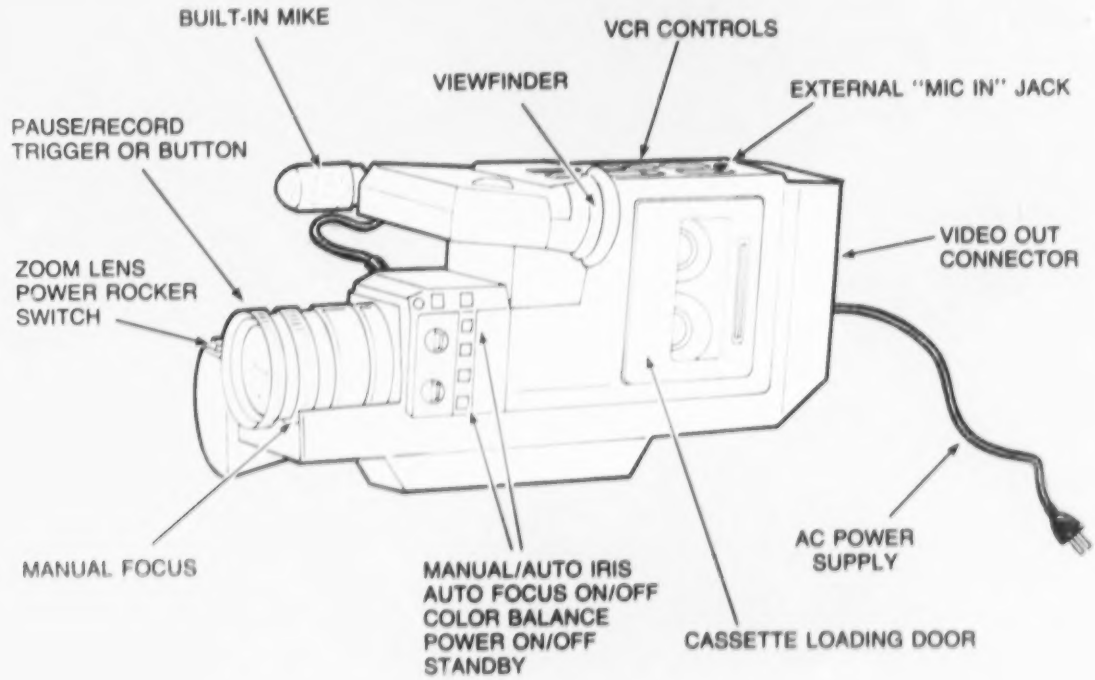
If necessary, do a very short test recording to find out what type of **indicator lights** you see in the viewfinder when you are actually recording. It is very easy to get confused! Manufacturers cannot agree on whether an indicator light in the viewfinder means that the tape is paused or moving.

Once you have the tape *rolling* in the RECORD mode, you can experiment further with the tripod controls and with the camera movement, zoom lens operation, focus, and exposure controls (if the camera's exposure system is not fully automatic). Use this longer test recording to familiarize yourself with the operation of the camera and tripod.

If your **zoom lens** is manually controlled, you turn or push the zoom control to change the angle of view. If it is a *servo* zoom, however, you must depress a rocker-type switch to have the power zoom go from telephoto (close-up) to wide-angle (wide-shot). If your zoom is servo-operated, never try to manually force the zoom from one setting to another. If you do, you will likely damage the motor and gears that drive the zoom lens.

SAMPLE 9

CAMCORDER CONTROLS



The process of focusing is automatic on some cameras. On these cameras, there will be a switch to allow you to focus manually if you wish. The section of the lens used for focusing is normally the section closest to the front of the lens. Rotate this control to produce a sharp, clear picture when you are on a *tight* (close) shot of your primary subject.

As you zoom out to a wide shot, you should not need to adjust the focus. You have prefocused on your primary subject, and as long as the subject does not move a great deal, it (or he or she) will still be in focus when you zoom back in for a close-up shot.

Another adjustment to be made is to carefully *frame* your subject within the rectangle formed by the TV frame. Allow sufficient headroom above your subject; you don't want the subject's head to be cut off by the top of the frame. And, in general, do not show a lot of ceiling, floor, or empty space around your subject unless it is relevant to the program. See sample 10 for some illustrations of good and bad video framing.

When you need to tilt the camera up or down to follow the action, loosen your tripod's tilt control just enough to allow you to slowly move the camera. If you loosen it too much, the camera might fall forward or back uncontrollably. Except when this control is tightly secured, always keep your hand on the camera or tripod handle.

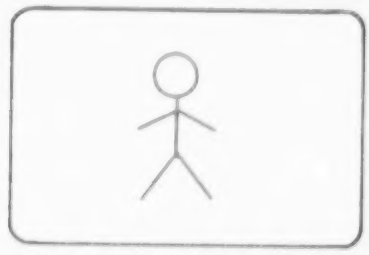
To move the camera to follow the action side to side, loosen the pan knob (usually located on the right side of the tripod head). Again, loosen the control only enough to allow you to smoothly and slowly pan the camera from right to left and back. If the control is too tight when you try to pan, the camera will jerk from one position to another.

Although operating a camera on a tripod can seem very difficult to do at first, there are some hints that can greatly improve your camera technique:

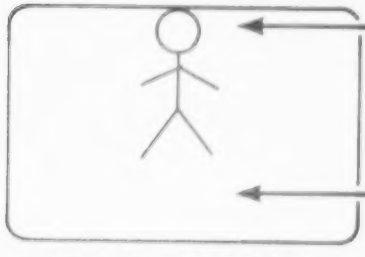
- **Move your camera slowly and carefully.** Don't take your audience on a video roller-coaster ride with fast pans or sudden tilts.

SAMPLE 10

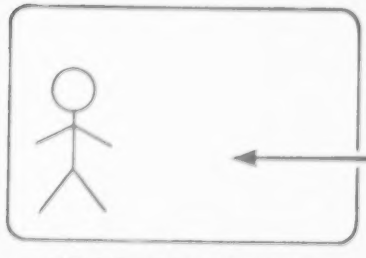
VIDEO FRAMING



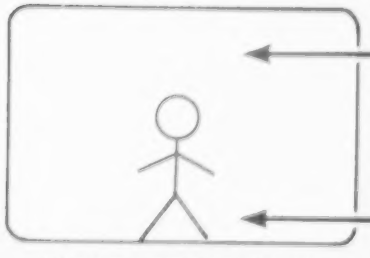
"GOOD" FRAMING



"BAD" FRAMING



"BAD FRAMING"



"BAD FRAMING"

- **Limit your zooming.** Don't disorient the audience by trying to zoom in and follow every movement or detail—particularly not if the demonstration is occurring faster than you can zoom and focus your shot!
- **Prepare, prepare, prepare.** Work with your presenter so there are no sudden and unexpected surprises. For example, you don't want to discover that the presenter is standing when you have the camera *locked down* on a close-up of him or her sitting. Nor do you want the presenter to suddenly hold up a picture and say, "Can you get a shot of this?" when the planned shot is already in focus and the tape is rolling.
- **Establish a procedure for close-ups.** Have a table or desk next to the presenter that you both have identified as the place to set all items that will be shown on close-up. Prepare the presenter by giving guidelines such as the following: "Keep the item on the table; following and focusing on an object that someone is holding up in the air is many times more difficult than shooting that same object resting on a surface. Second, show the item to the camera slowly. And finally, be careful not to obscure the item with your body."

Once you are comfortable with camera movement, try recording a brief scene that involves both audio and visual portions. Then, first push the PAUSE trigger to stop the recording, and then push STOP to take the machine out of RECORD mode. On some camcorders, you may first need to slide open a door covering the controls.

One caution: *Put the lens cap on the camera whenever you are not actively shooting with the camera for more than a few minutes.* This cannot be emphasized enough. A video camera's sensing devices can be damaged by bright direct light and by normally lit scenes where the camera view never changes. The damage can and will occur *even if the camera is shut off.* Regardless of whether the sensing device is the older tube style or a modern solid-state pickup device, it can be permanently damaged if the lens cap is left off for long periods of time.

Next, with the tape in the STOP mode, use the REWIND control (no picture or sound) to get back to the beginning of the tape. Then press the PLAY button to play back the scene you videotaped. You might also FAST SEARCH to a particular spot on the tape by pressing the FAST FORWARD or REWIND buttons while the tape is in PLAY mode. You will see the picture (without sound) in speeded up action.

On some machines, you need to continue to press the button throughout the search operation. Then, when you let your finger off the REWIND or FAST FORWARD button, the tape goes back to the PLAY mode. On other machines, you press the REWIND or FAST FORWARD button once to activate the function and press them once more (or press PLAY) to return to PLAY mode.

Not all video recorders have this FAST SEARCH mode. If not, you must press STOP to get the machine out of PLAY mode, press FAST FORWARD or REWIND (no picture or sound), wait a period of time, and then press PLAY again. You will need to keep repeating this process until you locate the segment of the presentation you are looking for.

In reviewing the test tape, you may find you need to correct some problems with the picture or the sound. If, for example, the picture is very distorted, with streaks of *snow*, try adjusting the **video tracking control knob**. This control is located on the front of most video recorders and on the top of all others. You should see an effect on the picture as you slowly rotate the control back and forth. The picture will become snowy or distorted at the extremes of the control and normal at the proper setting. Set the control for the clearest picture.

If you still cannot get a good picture, try playing back a test tape or another tape of proven quality in order to determine where the problem lies. If this tape plays properly, your camera connections may be faulty. If it doesn't play properly, the video recorder is defective or needs cleaning. In any event, contact a resource person for help if needed.

If you cannot get sound, check to see that the volume control you turned down for recording is now turned back up for playback. Check whether the microphone was plugged into the proper connector and whether you have an audio cable to connect the sound from the recorder to the monitor.

If you were able to record and play back both picture and sound, you have established that the video equipment works. This greatly increases the probability that the equipment will work correctly later when you want to videotape your actual production.

However, you are working with a combination of electronic equipment, various kinds of connecting cables, and all kinds of switches and controls. Consequently, the only guarantee with videotaping might be that there are no absolute guarantees.

What all this breaks down to is this. Set up and test your equipment ahead of time for **all** productions. Nothing is more frustrating than keeping a class or a group of actors waiting because one element of the video production or playback equipment is not working.

Recording a Presentation

When you have gained sufficient experience in operating the equipment, you can move to planning the actual production. You may be recording events

SAMPLE 11

RUNDOWN SHEET

Date
Title

Name

VIDEO	AUDIO
Title	Introductory remarks
Teacher at board drawing figure	Explanation of first three steps involved in figure
CU (close up) of model	Discussion of process

as they occur naturally. For example, natural events such as student presentations, routine class proceedings, or lessons can be taped for later viewing or for evaluation purposes. In general, such events will be kept on videotape for a short while (e.g., until the review or evaluation is completed).

Or you may be *staging* a production. For instance, you might stage a special demonstration covering a hard-to-observe procedure, such as grinding a valve for a car engine. You can also stage productions demonstrating important interactive skills, such as taking part in a job interview or dealing with customers. The productions can present model performances the students can imitate, or they can present flawed performances the students can critique.

Any presentation intended for repeated viewings or for playback to a variety of classes should be properly planned by both the camera operator and the presenter. A lengthy videotape, done quickly and without planning for the content and sequence, may actually do a disservice to the audience. It is much better to deal with a few short sequences that can be rehearsed and prepared for videotaping and then played back as an important part of an overall lesson plan.

Both camera operator and presenter need to have a good idea of the expected sequence of the videotape production. Thus, planning should involve determining the steps you wish to illustrate with this videotape and how much explanation should be needed for each step.

Running through those steps will help you determine what movements the presenter will make and where he/she will be positioned at any given point. Are close-ups needed, and if so, at what points in the presentation? Are all the desired shots possible, taking into account any limitations of your equipment and any light and sound considerations?

One useful planning technique is to develop a *rundown sheet* in advance. A rundown sheet contains general explanations of what will be taped—both audio and video portions—and the expected order in which they will be videotaped. It is designed to allow all parties involved in the video production to anticipate what is coming so that the production is focused and smooth.

Rundown sheets usually consist of two columns, as shown in sample 11. The left-hand column provides video directions, while the right-hand column lists the basic instructional points the presenter will cover.

Sometimes, an even greater level of planning is required. In this case, a *storyboard* can be used to show the expected video shots and audio portions at each point in the production. A storyboard should be complete enough that all parties involved in the production are working toward the same goals and will be prepared to present the desired material. This should produce a videotape session that goes smoothly and a completed videotape that reflects the care and planning that went into the production.

SAMPLE 12

STORYBOARD

Date:

Title:

VISUAL	SOUND
Scene 1: JVS classroom and instructor	Instructor: Welcome to the JVS special demonstration. We know that this demonstration is difficult to show so
Scene 2 - Demonstration close-up shot	Instructor
Scene 3 - Student with safety gear	Student
Scene 4 - Classroom wide-angle shot	Instructor

Sample 12 shows a simple storyboard layout. The left side consists of frames or boxes representing critical scenes or views. The right side covers the sound or script.

Storyboard picture frames are not expected to be great art. They simply serve to help all participants visualize what the scene should look like. Stick figures and rough drawings or labels can actually go

a long way in helping you get a smooth-running videotape *shoot* and a better finished tape.

Likewise, the audio or narration column may include only topics or an outline. On the other hand, it may contain a word-for-word script. If the presenter is not at ease in front of a camera, it may be best to allow him or her to make the presentation essentially in his/her own words. However, the presenter should be required to refer to index cards or a list of key words to ensure that he/she covers all points in the planned sequence, as agreed upon in the advance meetings.

If a word-for-word script is to be followed, it may not need to be either memorized or read on camera. For a manipulative skill demonstration, for example, you can have the presenter do a brief *on-camera* introduction and summary. During the actual demonstration, however, you can focus the camera on the presenter's hands and the manipulative skill, rather than on his or her face. The presenter (or a narrator) can read the balance of the script aloud, while the camera focuses on what he or she is doing.

To assist with on-camera presentations, you can also use a device called a *cheat*. The cheat is a sort of instant TV TelePrompTer (a device for unrolling a magnified script), like TV newscasters use. You should use a large and fairly stiff piece of posterboard or paper about 2' wide by 3' high. The key words, phrases, or sentences should be written large enough that they will be readable from about 10' away.

The cheat can be held by an assistant. It should be held from the side and should be located next to the camera lens, as shown in sample 13. As the presenter reads, the cheat should be moved up so that the line being read is level with the camera lens. This allows the presenter to appear as if he or she is in direct eye-contact with the camera, rather than looking off to the side.

If there is more than one page, the assistant will need to carefully exchange cheat sheets as the presenter reads. This technique may take some practice, both for the presenter and for the assistant. Initially, the presenter may lose track of the presentation; the assistant may move the cheat over the camera lens or make rustling noises that can be picked up by the microphone. A little practice should remedy these problems.

Once the presentation has been prepared and is ready to begin, all that remains to be done is for you to record it on tape. This requires focusing and framing the picture and making sure the camera follows the pertinent action of the presentation. Here again, practice is the key. Smooth camera operation is accomplished only through practice.

If you have a monitor hooked up to the recorder, you can view the presentation during the taping by using the monitor rather than the small viewfinder on the camera. To monitor the sound, you can use an earphone or a pair of headphones plugged into the headphone jack on the recorder (only portable recorders will have this jack) or the earphone jack on the monitor.

When you have completed the recording task, eject the videocassette, and place a label on the outside of the cassette. Put down information such as your name, the date, and the title of the video presentation. If necessary, break out the record protect tab on the cassette so that someone else (or you as well!) will not accidentally record over the presentation.

Then, prepare the equipment to be put away in a secure area. What exactly this entails will depend on the particular policy of your school or college. It will almost always mean turning off the equipment using the power switches on each individual piece and placing the lens cap on the camera. It may mean dismantling the equipment and carefully unplugging, coiling, and storing all cables. If the video recorder is mounted on a monitor cart, it may mean leaving the video and audio cables attached and just removing the camera from the tripod and collapsing the tripod.

Showing a Videotape or Videodisc

Assume that you are ready to show a tape you have produced or a tape or videodisc produced locally or commercially. To do so, you set up the recorder and monitor just as you did for taping, but without the camera connections. If the equipment is properly connected, few adjustments should be needed. You might, however, have to adjust the video tracking control on the recorder or the volume control for the speaker contained in the video monitor.

If you are presenting to a large group, it may be difficult for everyone to see using only one normal-sized monitor. In that case, you should consider using two or more monitors (connected to show the same picture) or arranging for the use of a large-screen TV projector.

Again, when the videotape or videodisc showing is finished, dismantle the equipment as per the policy of your particular school or college and place it within a secure area.

SAMPLE 13

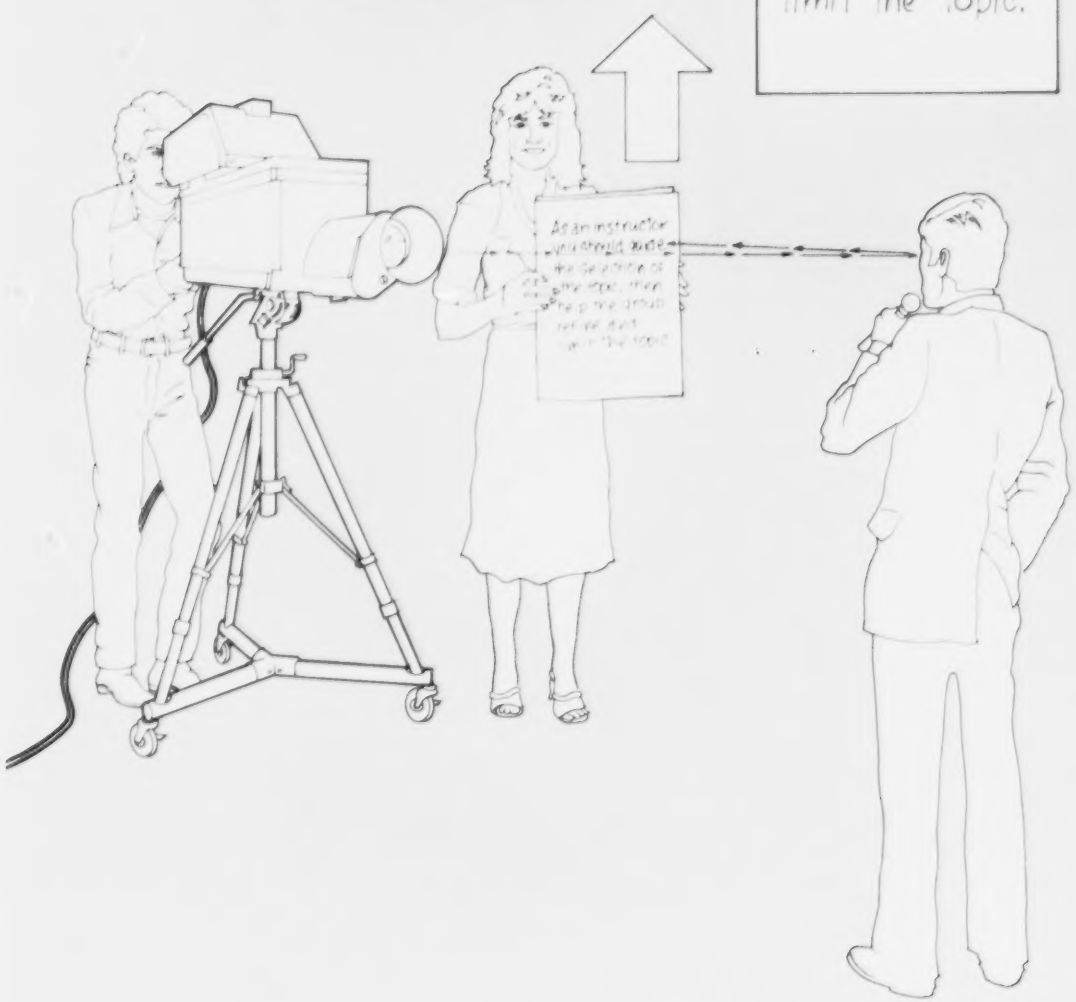
THE CHEAT

THE CHEAT ——→

LARGE POSTERBOARD WITH
EXACT WORDS OR KEY WORDS

MOVE THE CHEAT UP AS THE PRESENTER READS SO THAT THE CURRENT LINE IS LEVEL WITH THE CAMERA LENS.

As an instructor you should guide the selection of the topic, then help the group refine and limit the topic.



NOTES

The following worksheet is designed to help you become competent in operating videotape equipment. No one need see this worksheet unless you choose to show it to them, so do not be reluctant to record what actually happens, right or wrong. The sheet is not intended to show proof that you did everything perfectly the first time. It is intended to help you organize your knowledge about the operation of videotape equipment, to help you apply that knowledge to actual equipment, to point out to you where you have gaps in your knowledge, and to help you determine how to fill those gaps. Completed thoughtfully and thoroughly, this sheet should make a useful reference for you in the future. Read the directions carefully and then complete each of the 20 exercises.

VIDEOTAPE EQUIPMENT WORKSHEET

Directions: Locate a videotape recorder, camera, monitor, blank tape, and operating manual. Arrange for the equipment to be placed in the room in which you will be working. Complete each of the following exercises using the actual equipment and materials. Each exercise requires a short response. Please respond fully, but briefly, and make sure you respond to all parts of each item. Do **not** answer simply yes or no; explain your responses. Should you have any difficulty with an exercise, make a note of that problem.

1. What is the make and model of the video equipment with which you are working?

   Camera (camcorder)

   Video recorder

   Monitor

2. If the operating manuals for the equipment are available, skim the content. Do they contain any information which is different from or which was not covered in the information sheet? If so, briefly describe that information.

3. What video format is the video recorder or camcorder (e.g., ¾" U-matic, regular VHS, Super VHS, ED-Beta, 8mm)?

4. What is the nominal length (in minutes) of the videocassette you are using if recorded at normal (not extended) speed?

5. Describe the monitor you will be viewing (size, controls, portability).

6. If some of the equipment is mounted on an AV cart or you are using an AV cart to move the equipment, describe that cart (portability, number of shelves, height, etc.).

7. Position the equipment in the room. List the steps you followed **and** draw a diagram of how you positioned the equipment.

8. Connect the equipment to power sources.
   a. How many electrical extension cords were required?
   b. Did you need/use an outlet power strip?
   c. What steps did you take to ensure that the cords did not create a possible safety hazard?

9. What style of microphone are you using?

10. Connect the microphone and recorder. Briefly describe the microphone-to-recorder connection (plug style, jack location, use of audio adaptors or a separate microphone mixer with a line output).

11. Make sure that you indicated the position of the microphone in your answer to question 6. Why did you choose that particular location for the microphone?

12. Connect the camera to the recorder (not applicable for camcorders). Briefly describe the camera-to-recorder connection (plug style, jack location, use of video adaptors).

13. Connect the recorder to the monitor. Briefly describe the recorder-to-monitor connection (type of connector, location on the equipment).

14. Locate the power ON/OFF and STANDBY switches on the camera, and describe their location. How can you tell when the camera is on?

15. Locate the power ON/OFF control for the video recorder, and describe its location. How do you know when the recorder is ready to operate?

16. Locate the power ON/OFF control for the monitor, and describe its location. Also describe any additional steps you had to take before you could see the camera picture (such as tuning to the proper channel or switching between TV and LINE).

17. Shoot a short segment of videotape to check out the system. Describe the test procedure you followed, any problems identified during the recording process, and the steps taken to resolve those problems.

18. Operate the camera's manual focus, and change shots from a wide-angle to a close-up. Describe the procedure necessary for these operations with your camera.

19. Experiment with the tripod controls and with the camera movement up and down and side to side. Describe your level of success in moving the camera slowly and securely.

20. Replay your recording. Describe any problems in the picture or sound quality and the steps you took to correct them (e.g., adjusting the tracking control on the recorder; the color tint, brightness, or contrast on the monitor; or the volume control or microphone placement).

After you have completed each of the activities in the worksheet, use the Videotape Recorder Operation Checklist, pp. 33–34, to evaluate your work.

VIDEOTAPE EQUIPMENT OPERATION CHECKLIST

Name _____

Date _____

Resource Person _____

Directions: Place an X in the YES or NO column to indicate whether each item was performed successfully or not.

	Yes	No
When you were setting up the equipment, you completed each of the following steps:		
1. extended all tripod legs an equal distance, and secured them so they would support the camera	☐	☐
2. securely attached the camera to the tripod mounting plate	☐	☐
3. correctly connected power cords to power strips or outlets	☐	☐
4. positioned electrical extension cords so that they did not pose any safety hazard	☐	☐
5. correctly connected the microphone to the recorder	☐	☐
6. correctly connected the camera to the recorder	☐	☐
7. correctly connected the monitor to the recorder	☐	☐
When you loaded your blank videocassette into the recorder, you made sure that you:		
8. oriented the cassette properly for insertion	☐	☐
9. checked the record protect device to ensure the tape could be used for recording	☐	☐
10. correctly inserted the cassette into the recorder so that the cassette threaded in the machine	☐	☐
When you recorded the trial segment, you:		
11. removed the lens cap	☐	☐
12. put the camera on OPERATE	☐	☐
13. started to record using the following sequence on the recorder: RECORD mode, PAUSE mode, RECORD mode	☐	☐
14. focused properly while on manual focus	☐	☐
15. took wide-shots and close-ups	☐	☐
16. panned slowly	☐	☐
17. framed your primary subject so there was no excessive space visible in the shot (i.e., too much floor or ceiling)	☐	☐
18. ended the recording using the following sequence on the recorder: PAUSE mode, STOP mode	☐	☐

When you replayed your tape, you:	Yes	No
19. adjusted the volume controls on the monitor	☐	☐
20. adjusted the tracking control on the recorder if necessary	☐	☐
21. adjusted the color, brightness, and contrast on the monitor	☐	☐

Level of Performance: All items should receive YES responses. If any item receives a NO response, correct that condition using the actual equipment and materials. If you have trouble correcting the condition, check with your resource person or someone with expertise in the area of audiovisual equipment.

You may wish to contact your resource person or someone else you or your resource person may know of with expertise in the area of audiovisuals. This person could discuss with you special techniques or helpful hints that can be of use to you when you work with video-based equipment.

You may wish to explore some of the new technological advances in video-based equipment. You might request manufacturer's specification sheets from professional video equipment or instructional technology trade magazines. You could then compare the quoted technical performance specifications with those of your current equipment. You may visit a local audiovisual and video equipment dealer to examine their showroom video-based equipment. If you cannot make such a visit, you could write to one or more of the major manufacturers of video-based equipment and materials, asking for catalogs.

Learning Experience II

OVERVIEW

After completing the required reading, present information with a video-based presentation or televised program in a practice situation.

You will be reading the information sheet, Using Video-based Equipment and Educational Television as Instructional Devices, pp. 37–44.

You will be selecting an objective in your occupational specialty that lends itself to use of a video-based presentation or televised program.

You will be selecting, modifying, or developing a lesson plan designed to achieve that objective using a videotaped or videodisc presentation and/or educational TV program.

You may wish to have your resource person review the adequacy of your plan.

You will be **preparing** or **obtaining** (and previewing) the necessary video-based presentation; or **selecting** the necessary televised, cablecast, or satellite broadcast program; and making arrangements to secure the necessary equipment.

You may wish to arrange through your resource person to visit a classroom in which a teacher **experienced** in the use of video-based or televised materials is presenting information using a videotaped or videodisc presentation and/or educational TV program.

You will be presenting your lesson to your resource person.

You may wish to present two lessons, one using a videotaped or videodisc presentation, and one involving an educational program obtained via television, cable, or satellite.

Your competency in presenting information with a video-based presentation or televised program will be evaluated by your resource person, using the Presentation Checklist: Televised and Video-based Materials, pp. 47–48.

Activity 1

For information describing the general and specific uses of video-based and televised materials in presenting information, and explaining the procedures for their classroom use, read the following information sheet.

USING VIDEO-BASED EQUIPMENT AND EDUCATIONAL TELEVISION AS INSTRUCTIONAL DEVICES

Video-based or televised information can add a new dimension to your teaching. By prudently selecting such material and infusing it into the curriculum, you can enhance your instructional effectiveness. The discussion that follows describes the instructional uses of (1) previously taped video productions, (2) videotaping in the classroom or laboratory during instruction, and (3) centrally broadcast or distributed educational TV programs.

Previously Recorded Productions

In planning the activities you will use to help students achieve lesson objectives, you will need to consider if prerecording a videotape (or using a videotape prepared by a colleague, school or college media specialist, or commercial firm) could help meet those needs.

Videotaped close-ups. Assume that your lesson includes a manipulative skill demonstration. And assume that the demonstration involves detailed operations or the presentation of objects too small to be easily viewed. In that case, a videotape of those portions of the lesson could be prepared in advance.

By zooming the camera in on the action or object, the resulting videotaped close-ups will allow all students to have an unobstructed and clear view. A demonstration of carburetor adjustment or a delicate threading operation or the exposition of the cambium layer in a lesson on grafting shrubs can all be presented more readily by videotape than by conventional means.

Videotaped guest appearances and field trips. Another benefit of videotape is that it allows students to "see" absent guest speakers. A guest speaker's one-time presentation can be taped for presentation to future classes. A person who cannot make a personal appearance at the school can be videotaped elsewhere, and the tape (or a portion of the tape) can be shown in place of his/her actual appearance.

Videotape also allows students to "go" on field trips they would otherwise miss. When a field trip that would be ideal for achieving lesson objectives cannot be taken because of time or distance constraints, a video production featuring the elements contained in the field trip can be prepared in advance. The class can then "take" the field trip within the classroom at the time needed.

A word of caution: An hour-long video of a *talking head* (i.e., a videotape that features only a shot of a person talking to the camera, as in a straight lecture situation) will succeed in putting your class to sleep just as fast, if not faster, than listening to an undynamic lecturer in person. Likewise, a home-movie-grade videotape of a field trip—shot without benefit of a rundown sheet or storyboard and without the use of a tripod to produce a steady picture—will produce a home-movie-grade reaction in your audience.

Videotape is not a substitute for the sometimes tough job of preparing an energetic lesson plan. Today's student is very sophisticated with regard to video. Your video productions for the classroom need not be loaded with pizazz or flashy effects; however, they should be carefully focused—both literally and figuratively—on the subject at hand.

How do you make a videotape of a lecture presentation or a field trip intellectually stimulating? For a guest lecturer, one technique that seems to work is to chat with the person in an informal situation for a few minutes, with your videotape camera rolling. Start the tape with this segment. Let the immediacy and closeness of video convey some of the humanity

of this person as he or she talks candidly about his/her specialty in response to your questions, rather than speaking from a prepared text.

For a field trip, you should concentrate on videotaping the most important elements. To do this, you first need to plan what you are going to videotape. Depending on the class schedule and the course objectives, you might want to break the field trip into segments that are videotaped and then presented in class with additional supporting material.

Be prepared, however, for the fact that remote video production can be very time-intensive. Attempting to do hurry-up video (trying to cover an hour of material in the last 15 minutes of available location time because your time schedule broke down) can produce a videotape that is a mishmash of shaky pictures and incomplete details.

In videotaping a guest speaker or a field trip, keep your production relatively short. It is better to attract and keep an audience for ten minutes than to lose them completely in thirty. Make the videotape just one part of the lesson, and use it as a jumping-off point for other class activities (e.g., discussion, projects, demonstrations).

Videotaped commercial or educational TV programming. Videotape can also be used to "capture" a commercial or educational TV program aired at a time other than when your class meets. If your VCR has a timer control, you can use it to *time-shift* such programs so that they can be shown when you need them.

To record programs *off the air*, you must have a VCR or monitor/receiver which has a tuner built into it to receive broadcast or cable signals and which is hooked up to an antenna system or cable. If you are using a receiver, it must be hooked up to the VCR with an eight-pin connector, and the switch settings on the recorder and monitor will need to be changed.

If your VCR and monitor/receiver combination does not have a special timer to activate the RECORD function, you will be restricted to manually placing the machine into RECORD mode just as your broadcast program begins. If you are using a VCR which does not have a timer with a TV tuner or which does not have an eight-pin connection, you probably will not be able to record broadcast programs with this system at all. In that case, you will need to locate another system (in the school or even at home) that does have this capability.

The complex legal questions raised by the recording of a broadcast program for educational use have not yet been fully resolved. Suggestions of *fair use* for limited educational purposes could apply to both copyrighted print materials and copyrighted broadcast programs. However, any such use would have to be done on a limited basis for a limited classroom audience (see sample 14).

Broadcast networks have tried to exert some control over the situation by offering a legal means for obtaining access to relevant programming. Both commercial and public networks have established systems of videotape sales and distribution, with accompanying license to use the programs within classrooms. However, the cost of some programs might be beyond the limits of your budget. Check with your media librarian or media specialist for information on the availability of this type of material.

While it might seem that networks (and satellite distributors as well) have in general looked the other way with regard to classroom or educational use of their materials, this is not to say that they might not attempt to exert control at some point in the future. Thus, it would be worthwhile to explore school or college policy with regard to such taping before including material in your lesson plans.

Advantages. Previously recorded videotape (or videodisc) presentations share a number of advantages. A videotape can be rewound during the lesson so that specific segments can be reshown. This allows the students additional opportunities to grasp information and techniques they may have missed during the original showing.

Likewise, you can *freeze-frame* an important visual during the presentation; i.e., you can stop the tape so it is frozen on a single frame. This allows students to study a complex operation in detail. It can also allow you to point out selected features.

Additionally, a videotaped presentation can be made available (perhaps in the library or resource center) so that individual students who were absent, or who simply need to review the material, can fully benefit from it.

In individualized, competency-based programs, videotapes have a very special and critical function. Because students progress at their own rates in such programs, individual students may need to have specific instruction available to them at different times. Teacher-prepared videotapes can help meet this need.

For example, teacher-made videotapes of manipulative skill demonstrations or other lessons can be produced to correlate with written learning packages. When a student is ready, he or she can locate the tape and view it as directed in order to acquire the information or skill in question. In that way, you need not repeat a lesson for each individual student; instead, you are free to work with them in more productive ways.

SAMPLE 14

OFF-AIR RECORDING GUIDELINES

Guidelines for Off-Air Recording of Broadcast Programming for Educational Purposes

In March 1979, Congressman Robert Kastenmeier, chairman of the House Subcommittee on Courts, Civil Liberties and Administration of Justice, appointed a Negotiating Committee consisting of representatives of education organizations, copyright proprietors, and creative guilds and unions. The committee's task was to establish guidelines that would provide standards for both owners and users of copyrighted television programs.

The following guidelines reflect the Negotiating Committee's consensus concerning the application of "fair use" to the recording, retention, and use of television broadcast programs for educational purposes. The guidelines specify periods of retention and use of such off-air recordings in classrooms and similar places devoted to instruction and for home-bound instruction.

1. The guidelines were developed to apply only to off-air recording by nonprofit educational institutions.
2. A broadcast program may be recorded off-air simultaneously with broadcast transmission (including simultaneous cable retransmission) and **retained by a nonprofit educational institution for a period not to exceed the first 45 calendar days after date of recording.** Upon conclusion of such retention period, all off-air recordings must be erased or destroyed immediately. *Broadcast programs* are television programs transmitted by television stations for reception by the general public without charge.
3. Off-air recordings **may be used once by individual teachers in the course of relevant teaching activities and repeated once only** (when instructional reinforcement is necessary) in classrooms and similar places devoted to instruction within a single building, cluster, or campus, as well as in the homes of students receiving formalized home instruction, during the first 10 consecutive school days in the 45-calendar-day retention period. *School days* are school session days—not counting weekends, holidays, vacations, examination periods, or other scheduled interruptions—within the 45-calendar-day retention period.
4. Off-air recordings may be **made only at the request of and for use by individual teachers** and may not be regularly recorded in anticipation of requests. No broadcast program may be recorded off-air more than once at the request of the same teacher, regardless of the number of times the program may be broadcast.
5. A **limited number of copies** may be reproduced from each off-air recording to meet the legitimate needs of teachers under these guidelines. Each such additional copy shall be subject to all provisions governing the original recording.
6. After the first 10 consecutive school days, off-air recordings may be used up to the end of the 45-calendar-day retention period only for **teacher evaluation purposes** (i.e., to determine whether to include the broadcast program in the teaching curriculum) and may not be used in the recording institution for student exhibition or any other nonevaluation purpose without authorization.
7. Off-air recordings **need not be used in their entirety**, but the recorded programs **may not be altered from their original content.** Off-air recordings may not be physically or electronically combined or merged to constitute teaching anthologies or compilations.
8. All copies of off-air recordings **must include the copyright notice** on the broadcast program as recorded.
9. Educational institutions are expected to establish appropriate **control procedures** to maintain the integrity of these guidelines.

The use of a videotaped presentation can also save time. You can carefully plan and prepare a high-quality demonstration, role-playing situation, or other teaching presentation **once**. It can then be used by any number of instructors, for any number of classes, over an extended period of time.

Having such a videotape available also ensures that the quality and the specific content of the lesson will always be the same. As visual elements become dated or as procedures change, you can rework your rundown sheet or storyboard and produce a new, updated version of the videotape.

The preparation of high-quality videotaped presentations involves time. However, the advantages—being able to show close-ups, to repeat segments of the presentation, to use the video program in your other classes, to share the video with colleagues, and to provide students with a means of reviewing critical material—substantially offset the initial production time expended.

Also, in many situations, media specialists are available to assist you in planning the production, arranging for equipment availability, and carrying out *video postproduction* (i.e., editing, titles, or duplication) of the material you have videotaped. In some cases, these individuals are available to actually handle the taping for you.

Furthermore, some two-year postsecondary schools offer programs to train audiovisual technicians. If you are teaching in such a school, these students might be able to produce programs for you as part of their training experience.

While your finished videotape production may not ever be mistaken for *Gone with the Wind*, it need not necessarily suffer by comparison. By concentrating on the strengths of video productions as they apply to your school situation, these materials can have a far greater impact upon student learning than any Hollywood epic.

Students react very positively to seeing familiar faces and locales on the TV screen and are usually very receptive to the instruction given. If they are convinced that these video presentations can be of use in helping them meet their objectives, they can deal with the fact that these tapes are intended to be instructional tools and are not professionally prepared, nationally viewed TV programs.

Videotaping During Instruction

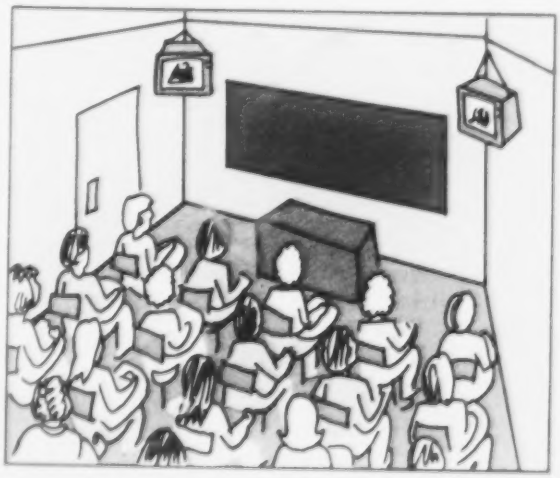
There are at least three classroom situations in which the process of videotaping can be extremely valuable. The first is not strictly videotaping since it involves only the camera and monitor (or large-screen projector). Earlier in this information sheet, you learned that videotaping close-ups of detailed operations in advance could be helpful. Another option is available.

By furnishing a close-up point of view directly from the camera to a monitor or monitors, you can provide all your students with a better-than-front-seat view without recording the sequence. In this manner, video supports the live demonstration, providing views that would ordinarily be inaccessible to the group. Using a large-screen projector makes it possible for even large audiences to view these informative close-ups.

Second, important lessons, such as the introductory lesson in a unit, can be videotaped in progress. Individual students can then review these as necessary; students who were absent can use them to catch up. (Such tapes also provide you with an opportunity to evaluate your own instructional effectiveness.)

And third, student presentations can be taped for purposes of self-evaluation, further discussion, or teacher evaluation. For example, videotaping an individual's responses in role-play situations can be unexcelled in providing critically needed feedback to the student. Because of increased access to video production equipment, videotaping role-play situations has become a vital part of education as it relates to developing those important (but sometimes intangible) people skills.

Furthermore, when student presentations are taped, sometimes a presentation of superior quality is captured. These tapes can be saved and used as models, which can be shown in class or viewed on an individual basis.



Educational Television

Centrally transmitted or closed-circuit TV is available in some school districts and colleges. In such situations, individual schools or individual classrooms are equipped with monitors, and educational programming is broadcast to those monitors, usually from a local college- or district-owned station.

Programming is also available from public television stations or networks that broadcast instructional programs during school hours. If the school has a satellite dish and receiver, programs that appear on a variety of informational- and educational-oriented satellite channels could be used as supplemental material to provide an extra dimension to a curriculum.

The advantage in using broadcast educational programming is that a wealth of well-prepared presentations are made available to all teachers in the system. TV teachers can present lessons otherwise unavailable. Guest speakers can make presentations. Educational films can be aired. Such programs can substantially enrich your lesson plans.

And again, if these programs do not match up with your class presentation schedule, you may be able to record the program, as previously mentioned, for viewing at a time that is appropriate given your lesson content or class meeting time.

Not all educational programming is applicable to the vocational-technical student. However, you and your colleagues can maximize the availability of relevant programs. Taking the time to study a monthly satellite programming guide can alert you to programs of potential interest. Delayed videotape replay can make the programs available at a convenient time.

If the station or network is college- or district-owned, you could work to become part of the program planning advisory process. Suggestions could be made regarding particular presentations, speakers, or films that could be broadcast to better serve vocational-technical students. Public access and educational access channels on cable television systems are also a possible method for a wider distribution of vocational-technical programs.

Classroom Procedures

Planning and preparation skills—such as planning a lesson and a unit and obtaining appropriate student instructional materials—are essential to the procedures you must follow in using video-based presentations and educational TV programs in the classroom. In order for the medium to be used effectively, its use must fit the needs of the lesson, and the programs should do all or at least most of the following:

- Meet the lesson objectives
- Fit students' needs, interests, and abilities[1]
- Provide concrete experiences
- Motivate or arouse interest
- Develop continuity of thought
- Clarify meaning and new vocabulary
- Provide variety in learning
- Save instructional time
- Provide experiences not as easily obtained by some other instructional device
- Be up-to-date
- Be presented at a logical point in the lesson
- Be clear, logical, concise, error-free, and attractive

With the above criteria in mind, your first step is to produce a videotape; locate an existing videotape or videodisc or a scheduled broadcast program; or arrange for a closed-circuit program that fits into your unit of instruction. Your next step is to plan the lesson, including how the media presentation will be used. In presenting any type of mediated instruction, you first need to plan how you will prepare the class for the presentation.

1. To gain skill in determining students' needs and interests, you may wish to refer to Module B-1, *Determine Needs and Interests of Students*.

Set induction—creating in students a mental set for approaching the presentation—is extremely important. That is, students should know what to expect from, and what they need to look for in, the presentation. They need to know how the presentation will aid them in meeting the lesson objectives and what they will be expected to know or do as a result of viewing it. This can be handled by raising questions, pointing out key items to look for, discussing new vocabulary, passing out study guides, and so on.

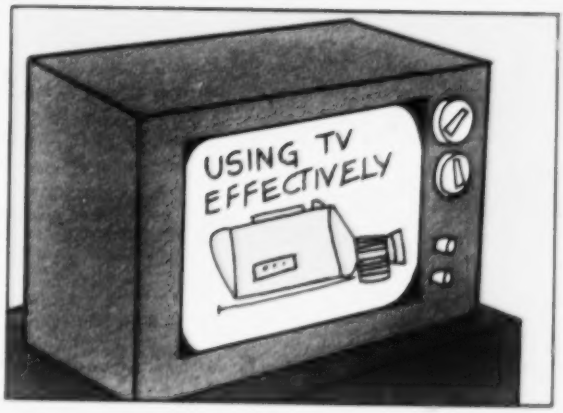
Your lesson plan also needs to indicate at what point in the lesson the presentation will be shown for maximum effectiveness. If you are showing a videotape, you need to determine if you will (1) show the entire tape without stopping, (2) stop for still shots to allow extra discussion, (3) rewind segments for extra viewing, or (4) use some combination of the previous three techniques. The way you handle this will depend on the content of the videotape, the abilities of your students, and the objectives of the lesson.

A summarization method needs to be decided on. Will you summarize or ask students to summarize? Would a panel discussion be an effective summarization device? Could study guides be used? How will you evaluate what students have learned from the presentation? Could exercises be designed that require students to put the mediated information to use? For example, you could have students view a videotaped demonstration and then practice the steps without your assistance. And finally, how will you get students' evaluation of the presentation itself?

Many commercially distributed videodiscs and educational videotapes and some educational TV programs are accompanied by teachers' guides. These can be used to prepare students for the presentation, as a basis for class discussion, as a follow-up activity, or to direct individual viewing.

However, before you use such materials—either with a class or for individual study purposes—you need to make sure that they do, in fact, meet the needs of your lesson objectives and your students. Even if they are not directly usable, such materials can often be of help to you in preparing your own study guides or worksheets.

Once you have completed your planning, you then need to arrange in advance for all the necessary equipment to be available at the time you will need it. Plan to have the equipment available enough in advance to give you time to set it up and try it out. This allows you to ensure that it is in good working order and that you are receiving a clear picture and sound on the monitor or TV.



In order for video to be properly used in the classroom, it is vital that all students have an opportunity for a clear, unobstructed view of the screen. When presenting TV programs, it is recommended that a screen of 25″ (minimum) be used (TV and monitor screens are measured diagonally according to industry standards). With a 25″ screen, no viewer should be located more than approximately 18′ away, and the group should number about 18–25 (maximum) people.

Other schemes regarding screen size may suggest that smaller screen sizes could be used or that audience members could be located at greater distances from the screen. However, such schemes could also diminish the overall effectiveness of the presentation.

If audience members are greater in number or if distances from the screen are greater than those recommended, additional monitors can be added. If you are using separate audio and video lines, additional monitors can be *looped*, with cables from the first monitor's output connected to the second monitor's input, and so on. If you are using an RF antenna-type cable with a TV set, an RF Splitter Box can be used to turn one output into two or more outputs, and cables can be run to additional TVs.

If using multiple monitors is not appropriate, a monitor with a 45″–50″ screen or a large-screen TV projection system should be considered. Generally, however, two 25″ monitors are suitable for most classroom video playbacks. Also, if classes are broken into small groups, a monitor with a smaller screen size can be used for each group. When using multiple monitors, each set should be adjusted to approximately the same brightness and color tints.

The monitor (or monitors) should be arranged within the room so that glare from windows or overhead lights does not *wash out* the screen and affect the quality of the picture. Furthermore, visual perception studies have shown that the eye is drawn to bright objects or surfaces. If you place the monitor with a bright surface or window directly behind it, you are creating competition for students' attention.

You should arrange the room so that students face forward in their seats toward the monitors. If you must have the monitor in front of a window, adjust the shades or blinds to block out any bright light. Shutting off all room lights is not recommended. Lights should be turned off (if possible) if they are directly over a monitor or cause a bad screen reflection; however, some room lights should remain on.

Monitors should be placed on mounts or carts that are approximately 5' high, with the monitor tilted slightly downward. If room acoustics dictate that the volume levels be greatly increased, be careful that the increased levels can be adequately handled by the built-in speaker in the monitor or TV.

If the speaker cannot handle the volume, the sound will be distorted and unclear. There may also be a buzzing or ringing caused by the vibration of the speaker cover or monitor case. If this is the case, you will need to use an external speaker or sound system that is properly matched to your room size. Again, your message will suffer if the means of presentation is faulty.

The equipment and room should be prepared so that as little time as possible is lost between preparing the students to view the mediated presentation and the actual start of the presentation. Carts with monitors should be quickly moved into proper sightline position if, because of classroom traffic patterns, they were not placed in position in advance. Lights should be promptly dimmed or shut off as required; and blinds or shades, drawn.

This is the point at which many video presentations fall into difficulties—when the presenter presses the PLAY button, and the videotape begins playing . . and playing . . and playing, but no program is yet shown or heard. This is because most videotapes have a section of *video black* before the program.

Video black is used to prevent damage to the taped presentation. The section of a videocassette that is most likely to be damaged is the first few inches. That is the point at which the tape stops after rewinding and the point at which the tape is normally ejected and inserted. With video black, this section has no sound or picture, and the tape will likely still be usable if the tape should be wrinkled or scratched there.

However, no standard exists concerning how many seconds of video black should precede a program. Consequently, while you are waiting for the program to start, many seconds may elapse—all of which could seem like hours—before the program finally begins.

The solution is relatively easy. Prior to the lesson, locate the tape segment you wish to show. Then use REWIND or REVERSE SEARCH to back up the tape about five seconds before the start of the presentation. Press the STOP button, and eject the tape if necessary. Do this with each tape if you are using more than one videocassette.

Then, when you reach the point in your lesson at which the presentation is to be shown, prepare the students, place the videocassette or disc in the player, and show the material according to your lesson plan. If the videocassette has been properly preset, the presentation should start within five seconds from when you press the PLAY button.

At the conclusion of the presentation, it is best to simply turn off the equipment, turn on the room lights, and complete your lesson plan. Unless it is in the way, the equipment should not be moved until after you have completed the lesson (discussion, evaluation, summarization, follow-up, and so on). In this way, equipment management does not interfere with the flow of the lesson.

After the class is complete, dismantle and store the equipment according to school policy. If you are using video, remember to rewind your tape and eject the tape or disc from the video player. It is also a good idea to document the arrangement of the room that worked best and the exact interconnection and cabling diagram of the monitors and videocassette or videodisc player for your video playback. This will help you (or a colleague) the next time the presentation will be shown.

Select a student performance objective in your occupational specialty that could be achieved, at least partially, by the use of a video-based presentation and/or televised program. (In a real-world situation, you start with an objective and then select the most appropriate materials and teaching methods. In this practice situation, however, you need to select an objective that lends itself to using a video-based and/or televised presentation.)

Prepare a lesson plan that includes the use of a video-based and/or televised presentation. In your plan, explain what type of presentation is needed, how it will be used, and when. Instead of developing a lesson plan, you may select a lesson plan that you have developed previously and adapt the plan so that it includes the use of a video-based and/or televised presentation.

You may wish to have your resource person review the adequacy of your plan. He/she could use the Teacher Performance Assessment Form in Module B-4, *Develop a Lesson Plan*, as a guide.

Based on your lesson plan, locate an existing video-based presentation, prepare your own videotape, or locate or arrange for a closed-circuit televised presentation. Also, arrange to have the necessary equipment available when you make your presentation. Having previewed the presentation (if possible), finalize your plans.

Before presenting your lesson, you may wish to arrange through your resource person to observe a lesson involving the use of a video-based or televised presentation that is being presented by a vocational teacher in your service area who is experienced in using such materials.

In a simulated classroom situation, present your lesson to your resource person. Your resource person will serve two functions: (1) he/she will role-play a student to whom you are presenting the lesson, and (2) he/she will evaluate your performance.

You may wish to present two separate lessons. In one lesson, you could present information using video-based material, perhaps a videotape you have made yourself. In the other lesson, you could present information using an educational or closed-circuit TV program.

Give your resource person the Presentation Checklist: Televised and Video-based Materials, pp. 47–48, before making your presentation in order to ensure that he/she knows what to look for in your lesson.

NOTES

PRESENTATION CHECKLIST
Televised and Video-based Materials

Directions: Place an X in the NO, PARTIAL, or FULL box to indicate that each of the following performance components was not accomplished, partially accomplished, or fully accomplished. If, because of special circumstances, a performance component was not applicable, or impossible to execute, place an X in the N/A box.

Name _____

Date _____

Resource Person _____

LEVEL OF PERFORMANCE

Televised Materials

The teacher:	N/A	No	Partial	Full
1. arranged the physical setting in advance in a way that would ensure that all students could both see and hear the program clearly	☐	☐	☐	☐
2. had equipment and materials assembled in advance	☐	☐	☐	☐
3. set up equipment according to the manufacturer's recommendations	☐	☐	☐	☐
4. checked and adjusted the equipment (e.g., monitor color and brightness) in advance	☐	☐	☐	☐
5. used a program that met the following criteria: a. program aided in meeting the objectives of the lesson	☐	☐	☐	☐
b. content was interesting and motivating	☐	☐	☐	☐
c. content was at students' comprehension level	☐	☐	☐	☐
d. content fit the needs and interests of the students	☐	☐	☐	☐
e. content was accurate and up-to-date	☐	☐	☐	☐
f. technical quality of the program was good	☐	☐	☐	☐
6. prepared students adquately for the program (e.g., raised key questions, defined terms)	☐	☐	☐	☐
7. presented the program at a logical point in the lesson	☐	☐	☐	☐
8. summarized (or had class members summarize) the content of the program	☐	☐	☐	☐
9. obtained student feedback on their understanding of the program	☐	☐	☐	☐
10. obtained feedback on students' evaluation of the program	☐	☐	☐	☐

Video-based Materials

The teacher:	N/A	No	Partial	Full
11. arranged the physical setting in advance in a way that would ensure that all students could both see and hear the presentation clearly	☐	☐	☐	☐
12. had equipment and materials assembled in advance	☐	☐	☐	☐
13. set up equipment according to the manufacturer's recommendations	☐	☐	☐	☐
14. checked, focused, and adjusted the equipment in advance	☐	☐	☐	☐
15. used a presentation that met the following criteria:				
a. presentation aided in meeting the objectives of the lesson	☐	☐	☐	☐
b. content was interesting and motivating	☐	☐	☐	☐
c. content was at students' comprehension level	☐	☐	☐	☐
d. content fit the needs and interests of the students	☐	☐	☐	☐
e. content was accurate and up-to-date	☐	☐	☐	☐
f. technical quality of the presentation was good	☐	☐	☐	☐
16. prepared students adequately for the presentation (e.g., raised key questions, defined terms)	☐	☐	☐	☐
17. introduced the presentation at a logical point in the lesson	☐	☐	☐	☐
18. paced the presentation according to the needs of the lesson and of the students (e.g., used REWIND, SEARCH, or STILL controls if necessary or appropriate)	☐	☐	☐	☐
19. summarized (or had class members summarize) the content of the presentation	☐	☐	☐	☐
20. obtained student feedback on their understanding of the presentation	☐	☐	☐	☐
21. obtained feedback on students' evaluation of the presentation	☐	☐	☐	☐

Level of Performance: All items must receive FULL or N/A responses. If any item receives a NO or PARTIAL response, the teacher and resource person should meet to determine what additional activities the teacher needs to complete in order to reach competency in the weak area(s).

Learning Experience III

FINAL EXPERIENCE

In an actual teaching situation,* present information with televised and/or video-based materials.

As you plan your lessons, decide when a video-based presentation and/or televised program could be used effectively to aid in meeting the lesson objectives. Based on those decisions, present information using a videotaped or videodisc presentation and/or educational TV program. This will include—

- **selecting, modifying, or developing a lesson that includes the use of a video-based presentation or televised program**
- **selecting, obtaining, preparing, and previewing the necessary materials**
- **securing the necessary equipment**
- **presenting the lesson to the class**

NOTE: Your resource person may want you to submit your written lesson plan to him/her for evaluation before you present your lesson. It may be helpful for your resource person to use the TPAF from Module B-4, *Develop a Lesson Plan,* to guide his/her evaluation.

Arrange in advance to have your resource person observe your lesson presentation.

Your total competency will be assessed by your resource person, using the Teacher Performance Assessment Form, pp. 51–52.

Based upon the criteria specified in this assessment instrument, your resource person will determine whether you are competent in presenting information with televised and/or video-based materials.

*For a definition of "actual teaching situation," see the inside back cover.

NOTES

TEACHER PERFORMANCE ASSESSMENT FORM

Present Information with Televised and Video-based Materials (C-27)

Name

Date

Resource Person

Directions: Indicate the level of the teacher's accomplishment by placing an X in the appropriate box under the LEVEL OF PERFORMANCE heading. If, because of special circumstances, a performance component was not applicable, or impossible to execute, place an X in the N/A box.

Televised Materials

The teacher:	LEVEL OF PERFORMANCE					
	N/A	None	Poor	Fair	Good	Excellent
1. arranged the physical setting in advance in a way that would ensure that all students could both see and hear the program clearly	☐	☐	☐	☐	☐	☐
2. had equipment and materials assembled in advance	☐	☐	☐	☐	☐	☐
3. set up equipment according to the manufacturer's recommendations	☐	☐	☐	☐	☐	☐
4. checked and adjusted the equipment in advance	☐	☐	☐	☐	☐	☐
5. used a program that met the following criteria:						
a. program aided in meeting the objectives of the lesson	☐	☐	☐	☐	☐	☐
b. content was interesting and motivating	☐	☐	☐	☐	☐	☐
c. content was at students' comprehension level	☐	☐	☐	☐	☐	☐
d. content fit the needs and interests of the students	☐	☐	☐	☐	☐	☐
e. content was accurate and up-to-date	☐	☐	☐	☐	☐	☐
f. technical quality of the program was good	☐	☐	☐	☐	☐	☐
6. prepared students adequately for the program	☐	☐	☐	☐	☐	☐
7. presented the program at a logical point in the lesson	☐	☐	☐	☐	☐	☐
8. summarized (or had class members summarize) the content of the program	☐	☐	☐	☐	☐	☐
9. obtained student feedback on their understanding of the program	☐	☐	☐	☐	☐	☐
10. obtained feedback on students' evaluation of the program	☐	☐	☐	☐	☐	☐

Video-based Materials

The teacher:

	N/A	None	Poor	Fair	Good	Excellent
11. arranged the physical setting in advance in a way that would ensure that all students could both see and hear the presentation clearly	☐	☐	☐	☐	☐	☐
12. had equipment and materials assembled in advance	☐	☐	☐	☐	☐	☐
13. set up equipment according to the manufacturer's recommendations	☐	☐	☐	☐	☐	☐
14. checked, focused, and adjusted the equipment in advance	☐	☐	☐	☐	☐	☐
15. used a presentation that met the following criteria:						
a. presentation aided in meeting the objectives of the lesson	☐	☐	☐	☐	☐	☐
b. content was interesting and motivating	☐	☐	☐	☐	☐	☐
c. content was at students' comprehension level	☐	☐	☐	☐	☐	☐
d. content fit the needs and interests of the students	☐	☐	☐	☐	☐	☐
e. content was accurate and up-to-date	☐	☐	☐	☐	☐	☐
f. technical quality of the presentation was good	☐	☐	☐	☐	☐	☐
16. prepared students adequately for the presentation	☐	☐	☐	☐	☐	☐
17. introduced the presentation at a logical point in the lesson	☐	☐	☐	☐	☐	☐
18. paced the presentation according to the needs of the lesson and of the students	☐	☐	☐	☐	☐	☐
19. summarized (or had class members summarize) the content of the presentation	☐	☐	☐	☐	☐	☐
20. obtained student feedback on their understanding of the presentation	☐	☐	☐	☐	☐	☐
21. obtained feedback on students' evaluation of the presentation	☐	☐	☐	☐	☐	☐

Level of Performance: All items must receive N/A, GOOD, or EXCELLENT responses. If any item receives a NONE, POOR, or FAIR response, the teacher and resource person should meet to determine what additional activities the teacher needs to complete in order to reach competency in the weak area(s).

ABOUT USING THE PBTE MODULE SERIES

Organization

Each module is designed to help you gain competency in a particular skill area considered important to teaching success. A module is made up of a series of learning experiences, some providing background information, some providing practice experiences, and others combining these two functions. Completing these experiences should **enable** you to achieve the **terminal** objective in the final learning experience. The final experience in each module always requires you to demonstrate the skill in an actual teaching situation when you are an intern, a student teacher, an inservice teacher, or occupational trainer.

Procedures

Modules are designed to allow you to individualize your teacher education program. You need to take only those modules covering skills that you do not already possess. Similarly, you need not complete any learning experience within a module if you already have the skill needed to complete it. Therefore, before taking any module, you should carefully review (1) the introduction, (2) the objectives listed on p. 4, (3) the overviews preceding each learning experience, and (4) the final experience. After comparing your present needs and competencies with the information you have read in these sections, you should be ready to make one of the following decisions:

- That you do not have the competencies indicated and should complete the entire module.
- That you are competent in one or more of the enabling objectives leading to the final learning experience and, thus, can omit those learning experiences.
- That you are already competent in this area and are ready to complete the final learning experience in order to "test out."
- That the module is inappropriate to your needs at this time.

When you are ready to complete the final learning experience **and** have access to an actual teaching situation, make the necessary arrangements with your resource person. If you do not complete the final experience successfully, meet with your resource person and arrange to (1) repeat the experience or (2) complete (or review) previous sections of the module or other related activities suggested by your resource person before attempting to repeat the final experience.

Options for recycling are also available in each of the learning experiences preceding the final experience. Any time you do not meet the minimum level of performance required to meet an objective, you and your resource person may meet to select activities to help you reach competency. This could involve (1) completing parts of the module previously skipped, (2) repeating activities, (3) reading supplementary resources or completing additional activities suggested by the resource person, (4) designing your own learning experience, or (5) completing some other activity suggested by you or your resource person.

Terminology

Actual Teaching Situation: A situation in which you are actually working with and responsible for teaching secondary or postsecondary vocational students or other occupational trainees. An intern, a student teacher, an inservice teacher, or other occupational trainer would be functioning in an actual teaching situation. If you do **not** have access to an actual teaching situation when you are taking the module, you can complete the module **up to** the final learning experience. You would then complete the final learning experience later (i.e., when you have access to an actual teaching situation).

Alternate Activity or Feedback: An item that may **substitute** for required items that, due to special circumstances, you are unable to complete.

Occupational Specialty: A specific area of preparation within a vocational service area (e.g., the service area Trade and Industrial Education includes occupational specialties such as automobile mechanics, welding, and electricity).

Optional Activity or Feedback: An item that is not required but is designed to **supplement** and enrich the required items in a learning experience.

Resource Person: The person in charge of your educational program (e.g., the professor, instructor, administrator, instructional supervisor, cooperating/supervising/classroom teacher, or training supervisor who is guiding you in completing this module).

Student: The person who is receiving occupational instruction in a secondary, postsecondary, or other training program.

Vocational Service Area: A major vocational field: agricultural education, business and office education, marketing and distributive education, health occupations education, home economics education, industrial arts education, technical education, or trade and industrial education.

You or the Teacher/Instructor: The person who is completing the module.

Levels of Performance for Final Assessment

N/A: The criterion was not met because it was **not applicable** to the situation.

None: No attempt was made to meet the criterion, although it was relevant.

Poor: The teacher is unable to perform this skill or has only **very limited ability** to perform it.

Fair: The teacher is unable to perform this skill in an acceptable manner but has **some ability** to perform it.

Good: The teacher is able to perform this skill in an **effective** manner.

Excellent: The teacher is able to perform this skill in a **very effective** manner.

Titles of the Center's Performance-Based Teacher Education Modules

Category A: Program Planning, Development, and Evaluation
- A-1 Prepare for a Community Survey
- A-2 Conduct a Community Survey
- A-3 Report the Findings of a Community Survey
- A-4 Organize an Occupational Advisory Committee
- A-5 Maintain an Occupational Advisory Committee
- A-6 Develop Program Goals and Objectives
- A-7 Conduct an Occupational Analysis
- A-8 Develop a Course of Study
- A-9 Develop Long-Range Program Plans
- A-10 Conduct a Student Follow-Up Study
- A-11 Evaluate Your Vocational Program

Category B: Instructional Planning
- B-1 Determine Needs and Interests of Students
- B-2 Develop Student Performance Objectives
- B-3 Develop a Unit of Instruction
- B-4 Develop a Lesson Plan
- B-5 Select Student Instructional Materials
- B-6 Prepare Teacher-Made Instructional Materials

Category C: Instructional Execution
- C-1 Direct Field Trips
- C-2 Conduct Group Discussions, Panel Discussions, and Symposiums
- C-3 Employ Brainstorming, Buzz Group, and Question Box Techniques
- C-4 Direct Students in Instructing Other Students
- C-5 Employ Simulation Techniques
- C-6 Guide Student Study
- C-7 Direct Student Laboratory Experience
- C-8 Direct Students in Applying Problem-Solving Techniques
- C-9 Employ the Project Method
- C-10 Introduce a Lesson
- C-11 Summarize a Lesson
- C-12 Employ Oral Questioning Techniques
- C-13 Employ Reinforcement Techniques
- C-14 Provide Instruction for Slower and More Capable Learners
- C-15 Present an Illustrated Talk
- C-16 Demonstrate a Manipulative Skill
- C-17 Demonstrate a Concept or Principle
- C-18 Individualize Instruction
- C-19 Employ the Team Teaching Approach
- C-20 Use Subject Matter Experts to Present Information
- C-21 Prepare Bulletin Boards and Exhibits
- C-22 Present Information with Models, Real Objects, and Flannel Boards
- C-23 Present Information with Overhead and Opaque Materials
- C-24 Present Information with Filmstrips and Slides
- C-25 Present Information with Films
- C-26 Present Information with Audio Recordings
- C-27 Present Information with Televised and Videotaped Materials
- C-28 Employ Programmed Instruction
- C-29 Present Information with the Chalkboard and Flip Chart

Category D: Instructional Evaluation
- D-1 Establish Student Performance Criteria
- D-2 Assess Student Performance: Knowledge
- D-3 Assess Student Performance: Attitudes
- D-4 Assess Student Performance: Skills
- D-5 Determine Student Grades
- D-6 Evaluate Your Instructional Effectiveness

Category E: Instructional Management
- E-1 Project Instructional Resource Needs
- E-2 Manage Your Budgeting and Reporting Responsibilities
- E-3 Arrange for Improvement of Your Vocational Facilities
- E-4 Maintain a Filing System
- E-5 Provide for Student Safety
- E-6 Provide for the First Aid Needs of Students
- E-7 Assist Students in Developing Self-Discipline
- E-8 Organize the Vocational Laboratory
- E-9 Manage the Vocational Laboratory
- E-10 Combat Problems of Student Chemical Use

Category F: Guidance
- F-1 Gather Student Data Using Formal Data-Collection Techniques
- F-2 Gather Student Data Through Personal Contacts
- F-3 Use Conferences to Help Meet Student Needs
- F-4 Provide Information on Educational and Career Opportunities
- F-5 Assist Students in Applying for Employment or Further Education

Category G: School-Community Relations
- G-1 Develop a School-Community Relations Plan for Your Vocational Program
- G-2 Give Presentations to Promote Your Vocational Program
- G-3 Develop Brochures to Promote Your Vocational Program
- G-4 Prepare Displays to Promote Your Vocational Program
- G-5 Prepare News Releases and Articles Concerning Your Vocational Program
- G-6 Arrange for Television and Radio Presentations Concerning Your Vocational Program
- G-7 Conduct an Open House
- G-8 Work with Members of the Community
- G-9 Work with State and Local Educators
- G-10 Obtain Feedback about Your Vocational Program

Category H: Vocational Student Organization
- H-1 Develop a Personal Philosophy Concerning Vocational Student Organizations
- H-2 Establish a Vocational Student Organization
- H-3 Prepare Vocational Student Organization Members for Leadership Roles
- H-4 Assist Vocational Student Organization Members in Developing and Financing a Yearly Program of Activities
- H-5 Supervise Activities of the Vocational Student Organization
- H-6 Guide Participation in Vocational Student Organization Contests

Category I: Professional Role and Development
- I-1 Keep Up-to-date Professionally
- I-2 Serve Your Teaching Profession
- I-3 Develop an Active Personal Philosophy of Education
- I-4 Serve the School and Community
- I-5 Obtain a Suitable Teaching Position
- I-6 Provide Laboratory Experiences for Prospective Teachers
- I-7 Plan the Student Teaching Experience
- I-8 Supervise Student Teachers

Category J: Coordination of Cooperative Education
- J-1 Establish Guidelines for Your Cooperative Vocational Program
- J-2 Manage the Attendance, Transfers, and Terminations of Co-op Students
- J-3 Enroll Students in Your Co-op Program
- J-4 Secure Training Stations for Your Co-op Program
- J-5 Place Co-op Students on the Job
- J-6 Develop the Training Ability of On-the-Job Instructors
- J-7 Coordinate On-the-Job Instruction
- J-8 Evaluate Co-op Students' On-the-Job Performance
- J-9 Prepare for Students' Related Instruction
- J-10 Supervise an Employer-Employee Appreciation Event

Category K: Implementing Competency-Based Education (CBE)
- K-1 Prepare Yourself for CBE
- K-2 Organize the Content for a CBE Program
- K-3 Organize Your Class and Lab to Install CBE
- K-4 Provide Instructional Materials for CBE
- K-5 Manage the Daily Routines of Your CBE Program
- K-6 Guide Your Students Through the CBE Program

Category L: Serving Students with Special/Exceptional Needs
- L-1 Prepare Yourself to Serve Exceptional Students
- L-2 Identify and Diagnose Exceptional Students
- L-3 Plan Instruction for Exceptional Students
- L-4 Provide Appropriate Instructional Materials for Exceptional Students
- L-5 Modify the Learning Environment for Exceptional Students
- L-6 Promote Peer Acceptance of Exceptional Students
- L-7 Use Instructional Techniques to Meet the Needs of Exceptional Students
- L-8 Improve Your Communication Skills
- L-9 Assess the Progress of Exceptional Students
- L-10 Counsel Exceptional Students with Personal-Social Problems
- L-11 Assist Exceptional Students in Developing Career Planning Skills
- L-12 Prepare Exceptional Students for Employability
- L-13 Promote Your Vocational Program with Exceptional Students

Category M: Assisting Students in Improving Their Basic Skills
- M-1 Assist Students in Achieving Basic Reading Skills
- M-2 Assist Students in Developing Technical Reading Skills
- M-3 Assist Students in Improving Their Writing Skills
- M-4 Assist Students in Improving Their Oral Communication Skills
- M-5 Assist Students in Improving Their Math Skills
- M-6 Assist Students in Improving Their Survival Skills

Category N: Teaching Adults
- N-1 Prepare to Work with Adult Learners
- N-2 Market an Adult Education Program
- N-3 Determine Individual Training Needs
- N-4 Plan Instruction for Adults
- N-5 Manage the Adult Instructional Process
- N-6 Evaluate the Performance of Adults

RELATED PUBLICATIONS

Student Guide to Using Performance-Based Teacher Education Materials
Resource Person's Guide to Using Performance-Based Teacher Education Materials
Implementation Guide for the Performance-Based Teacher Education & Competency-Based Staff Development Programs
Performance-Based Teacher Education: The State of the Art, General Education and Vocational Education
Supplementary Resources Suggested for the PBTE/CBSD Modules (1990 edition)

For information regarding availability and prices of these materials contact—AAVIM, American Association for Vocational Instructional Materials, 745 Gaines School Road, Athens, Georgia 30605, (404) 543-7557.

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